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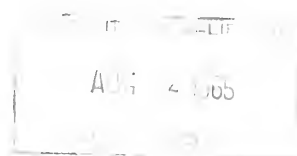
HYDROLOGIC DATA: 1963

Volume V: SOUTHERN CALIFORNIA

Appendix D: SURFACE WATER QUALITY

Appendix E: GROUND WATER QUALITY

APRIL 1965



HUGO FISHER
Administrator
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ORGANIZATION OF BULLETIN NO. 130 SERIES

- Volume I - NORTH COASTAL AREA
- Volume II - NORTHEASTERN CALIFORNIA
- Volume III - CENTRAL COASTAL AREA
- Volume IV - SAN JOAQUIN VALLEY
- Volume V - SOUTHERN CALIFORNIA

Each volume consists of the following:

TEXT and

- Appendix A - CLIMATE
- Appendix B - SURFACE WATER FLOW
- Appendix C - GROUND WATER MEASUREMENTS
- Appendix D - SURFACE WATER QUALITY
- Appendix E - GROUND WATER QUALITY

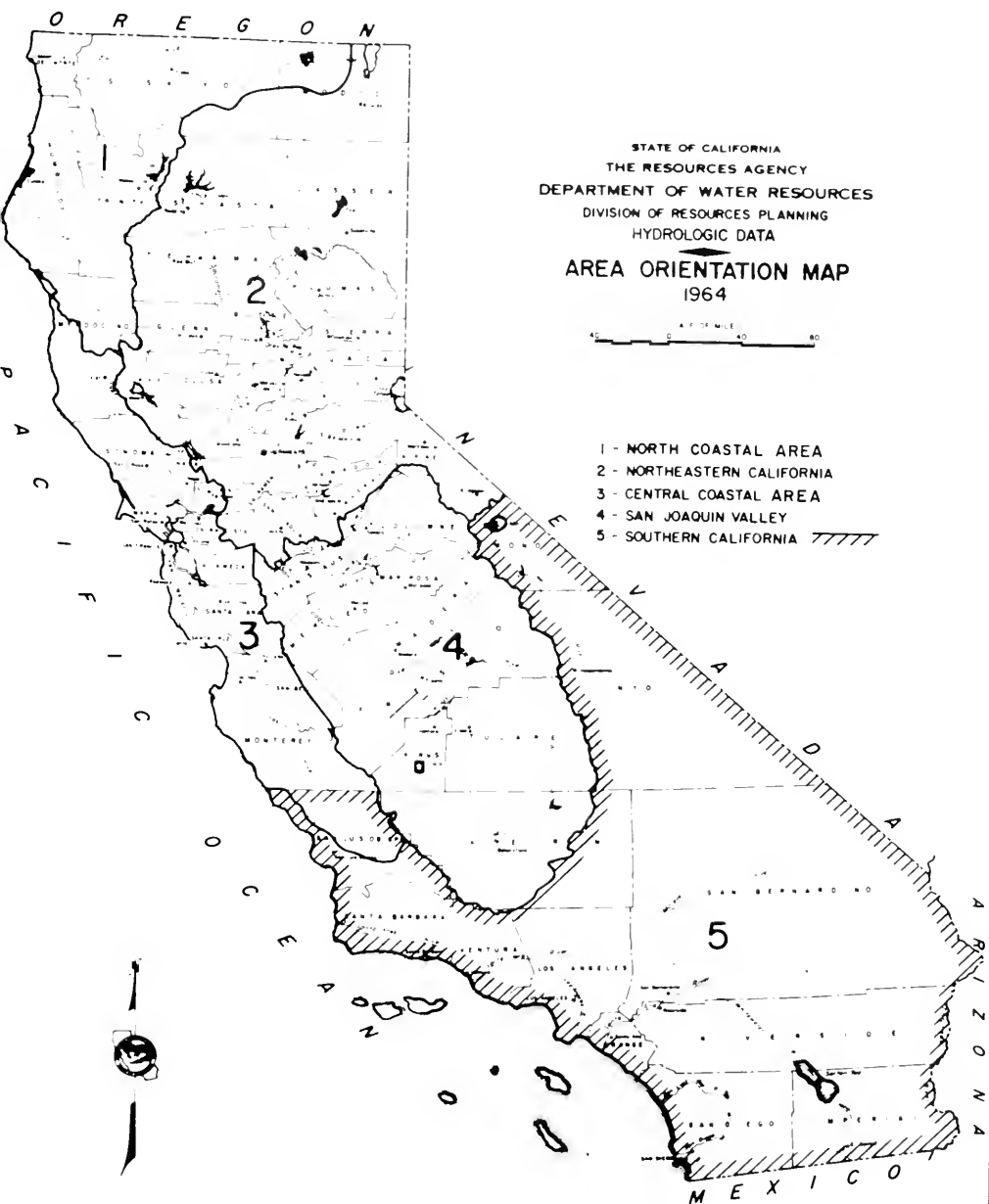


TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
Hydrologic Area Coding System	1
Stream Sampling and Well Designation	2
Stream Sampling Station Numbering System	2
Well Numbering System	2
Field Methods and Procedures	3
Surface Water Sampling	3
Ground Water Sampling	4
Laboratory Methods and Procedures	5

FIGURES

Figure No.

- | | | |
|---|--------------------------------|--------------|
| 1 | Area Orientation Map | Frontispiece |
|---|--------------------------------|--------------|

PLATES

(Plates listed below are bound at the end of these appendixes)

Plate No.

- | | | |
|-----|--|--|
| D-1 | Location of Surface Water Quality Monitoring Program
Stations 1962-63 | |
| E-1 | Location of Areas Monitored for Ground Water Quality
Changes, 1963 | |

APPENDIXES

Appendix

- | | | |
|---|--------------------------------------|-----|
| D | SURFACE WATER QUALITY DATA | D-i |
| E | GROUND WATER QUALITY DATA | E-i |

INTRODUCTION

These appendixes contain surface water quality data for the 1962-63 water year and ground water quality data for the 1963 calendar year for Southern California. This area is shown on Figure 1. Appendix D contains detailed information on surface water quality at stations whose locations are shown on Plate D-1. Appendix E contains detailed information on ground water quality in areas shown on Plate E-1.

To facilitate the processing of basic hydrologic data published in this report, numerical and letter codes are used to designate hydrologic areas, stream sampling stations, and wells. These coding systems are described in the following paragraphs.

Hydrologic Area Coding System

The hydrologic area coding system is based on a decimal numbering system, in the form A-11.A1, comprising two alphabetical characters and three digits. The alphabetical character to the left of the dash refers to drainage province. The boundaries of these provinces correspond to the regional water pollution control board boundaries, with exception of the Los Angeles-Orange and Los Angeles-San Bernardino county boundary. The final four positions of the areal designation code comprise two digits to the left of the decimal, which refer to the hydrologic unit, and one alphabetical character and one digit to the right of the decimal, which refer to the hydrologic subunit and hydrologic subarea, respectively. A discussion of this system is presented in Chapter II of the text to Volume V, Bulletin 130-63. Attachments 1 through 6 in Volume V, Bulletin 130-63, contain a cross-reference between this new system of areal designation and the old ground water basin numbering system along with plates showing these areas.

Stream Sampling and Well Designation

To designate the stream sites and wells sampled to obtain data presented in this report, the systems described below were used.

Stream Sampling Station Numbering System

The numbering system used to designate stream sampling stations in this report consists of the name of the stream and a brief description of the location of the sampling point. The stations are also identified by an arbitrary numbering system used only for ready reference. Stations in California are numbered sequentially with number consisting of a numeric and sometimes also an alphabetic designation. An example of a station number is Station No. 65c.

Well Numbering System

The state well numbering system used in this report is based on township, range, and section subdivision of the Public Land Survey. It is the system used in all ground water investigations and for numbering all wells for which data are published or filed by the Department of Water Resources. In this report the number of a well, assigned in accordance with this system, is referred to as the State Well Number.

Under the system each section is divided into 40-acre tracts lettered as follows:

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

Note that I and O are omitted in the grid above.

Wells are numbered within each 40-acre tract according to the chronological sequence in which they have been assigned State Well Numbers. For example, a well which has the number 9N/32W-17G1, S, would be in Township 9 North, Range 32 West, Section 17, San Bernardino Base and Meridian, and would be further designated as the first well assigned a State Well Number in tract G. Well numbers are referenced to the Mount Diablo Base and Meridian (M), the San Bernardino Base and Meridian (S), or the Gila and Salt River Base and Meridian (G).

Field Methods and Procedures

In collecting samples of surface and ground waters, a number of agencies cooperated with the Department of Water Resources. These agencies are listed below. The procedures followed for collecting samples are also discussed.

Surface Water Sampling

Agencies that participated in the field sampling program during 1962 and 1963, together with the number of surface water stations sampled by each agency, are:

<u>Agency</u>	<u>Number of stations sampled</u>
Department of Water Resources	47
The Metropolitan Water District of Southern California	2
Los Angeles City Health Department	1
Los Angeles Department of Water and Power	1
Long Beach City Health Department	1
City of San Bernardino	<u>2</u>
Total	54

In the continuing program, water samples are collected in May and September for mineral, radiological, bacteriological, and trace elements analyses. In the northern portion of the Southern District, water samples are collected monthly, and in the southern portion, bimonthly for partial mineral and bacteriological analyses. Colorado River stations are sampled only twice a year. The water samples collected for bacteriological examination are kept in portable ice boxes until delivered to the laboratory. All water samples are transported to the laboratories as expeditiously as possible.

At the time the samples are collected for laboratory examination, field determinations are made for dissolved oxygen by the modified Winkler method; water temperature; and pH. These data are included in Appendix D. Visual inspection is made of the stream or lake and the physical conditions are noted.

Where possible, the sampling stations have been selected so as to be at or near stream-gaging stations so that gage heights can also be recorded at the time the water samples are collected. Instantaneous stream discharges at the time of sample collection are then obtained. In the absence of gaging stations, streamflow is estimated by other methods.

Ground Water Sampling

The ground water quality monitoring program in the Southern District is conducted with the assistance of many cooperating local agencies. They are as follows:

San Luis Obispo County Flood Control and Water Conservation
District

United States Geological Survey, Santa Barbara County
Subdistrict Office

Ventura County Department of Public Works
Los Angeles County Flood Control District
San Bernardino County Flood Control District
Riverside County Flood Control and Water Conservation District
Orange County Flood Control District
United Water Conservation District, Ventura County
City of Long Beach
Los Angeles Department of Water and Power
United States Geological Survey, Southern California
Subdistrict Office

Sources are identified by state well number, for which precise location information is on record. A water sample is collected in either a gallon or half-gallon container, of glass or plastic. The required sample should be taken at the pump after it has been pumping for five or more minutes. Temperature, color, odor, and taste of samples are noted and recorded as soon as they are collected.

Separate samples are collected for radioactivity analysis, trace element analysis, or special analyses when such analyses are deemed necessary.

Laboratory Methods and Procedures

Methods of mineral, radiological, and bacterial analyses, used by the Department of Water Resources, in general, are those described in the American Public Health Association publication "Standard Methods for the Examination of Water and Sewage", 11th edition, 1960. In some cases, the methods described in the following publications also have been employed:

U.S. Geological Survey, "Methods for Collection and Analysis of Water Samples", Water Supply Paper 1454, 1960.

California Department of Public Works, Division of Water Resources, "Methods of Analysis", October 1955.

Mineral analyses are reported in parts per million (ppm) and bacterial analyses as most probable number per milliliter (MPN). Radioassays are reported as micro-microcuries per liter (uuc/l), the exact equivalent of pico-curies per liter (pc/l).

Heavy metals (trace elements) are reported as parts per million for the May 1963 analyses, which were performed by Terminal Testing Laboratories Incorporated at Los Angeles. The trace elements analyses for September 1963 are reported as parts per billion (ppb). These analyses were performed by the United States Geological Survey Laboratory at Sacramento, California, and used a newly developed spectrographic procedure perfected by that Laboratory. Limitations in the precision of measurements in spectrographic analyses frequently require the reporting of results as less than or more than the amounts presented, as is indicated in the footnotes accompanying the tables.

Oil and grease, phenols, alkalinity, 5-day biochemical oxygen demand (BOD), dissolved oxygen (DO), and free carbon dioxide (CO₂) are reported as parts per million, as are values for alkyl benzene sulfonate (ABS), the major constituent in present-day household synthetic detergents.

The radioassays of ground water samples were performed by several laboratories and have not followed the sampling and counting procedures discussed in the preceding paragraphs. Because ground water activity levels have historically proved to be quite low, usually only total activity (alpha plus gross beta-gamma activity) has been assayed. If total activity exceeds 100 uuc/l, alpha activity is determined.

It should be pointed out that determinations of some of the reported constituents are not absolute, but merely indicative of levels of

water quality. The purpose of these data is to help the investigator judge whether further, more intensive investigation is warranted to identify a source of pollution or to trace the movement of pollution.

Machine methods of data processing are being developed and tables E-1 through E-6 have been tabulated by machine. By putting the data on machines, the Department should soon be able to supply the user precisely the data he needs - so far as they are available in the Department.

APPENDIX D

SURFACE WATER QUALITY DATA

TABLE OF CONTENTS

APPENDIX D

<u>Table No.</u>		<u>Page</u>
	<u>Sampling Station Data and Index</u>	
D- 1	Surface Water Station Locations	D- 1
	<u>Analyses of Surface Water</u>	
D- 2	Central Coastal Drainage Province (T)	D- 4
D- 3	Los Angeles Drainage Province (U)	D- 7
D- 4	Lahontan Drainage Province (W)	D-26
D- 5	Colorado River Basin Drainage Province (X)	D-28
D- 6	Santa Ana Drainage Province (Y)	D-42
D- 7	San Diego Drainage Province (Z)	D-50
	<u>Radioassays of Surface Water</u>	
D- 8	Central Coastal Drainage Province (T)	D-59
D- 9	Los Angeles Drainage Province (U)	D-60
D-10	Lahontan Drainage Province (W)	D-67
D-11	Colorado River Drainage Province (X)	D-68
D-12	Santa Ana Drainage Province (Y)	D-70
D-13	San Diego Drainage Province (Z)	D-71
	<u>Spectrographic Analyses of Surface Water</u>	
D-14	Central Coastal Drainage Province (T)	D-72
D-15	Los Angeles Drainage Province (U)	D-74
D-16	Colorado River Drainage Province (X)	D-76
D-17	Santa Ana Drainage Province (Y)	D-78
D-18	San Diego Drainage Province (Z)	D-80

FOOTNOTES
FOR TABLES D-2 THROUGH D-7
MINERAL ANALYSES OF SURFACE WATERS

- a. Field pH
- b. Tests made by agency reporting analysis. Tests on samples collected in pairs by Department of Water Resources, made by State of California Department of Public Health, Division of Laboratories, Los Angeles, California.
- c. Analyses made by Department of Water Resources (DMR) City of Los Angeles Department of Water and Power (LADWP) Los Angeles City Department of Public Health (LADPH) Long Beach City Department of Public Health (LBDPH) or The Metropolitan Water District of Southern California (MWD)

TABLE D-1
SAMPLING STATION DATA AND INDEX
SURFACE WATER STATION LOCATIONS
YEARS 1962-1963

Station	Station Number	Location ^a	Period of Record ^b	Frequency of Sampling ^c	Sampled by ^d	Analysis on page
<u>Alamo River</u>						
At International Boundary	59	173/16E-18	February 1951	B	DWR	D-35, E-6 ^e
Near Calipatria	60	118/13E-22	March 1951	B	DWR	E-36, E-6 ^e
<u>All American Canal</u>						
Near Pilot Knob	56e	163/21E-24	May 1953	S	DWR	D-32, E-6 ^e
<u>Chino Creek</u>						
Near Chino	86	23/ 8W-36	April 1952	M	DWR	E-45, E-7
<u>Colorado River</u>						
Near Topock, Arizona	54	7N/24E- 8	April 1951	S	DWR	D-28, D-6 ^e , E-77
Lake Havasu, Colorado River Aqueduct at Intake	56d	3N/27E-28	November 1953	M	MWD	D-29, D-6 ^e
Aqueduct at La Verne	69	13/ 2W- 6	April 1951	M composite	MWD	D-24, D-25, D-6 ^e , D-66
Below Parker Dam	55	2N/27E-16	April 1951	S	DWR	D-30, D-6 ^e
Near Elythe	50c	73/23E- 2	May 1953	S	DWR	D-31, D-6 ^e
At Yuma, Arizona	50	163/23E-36	April 1951	S	DWR	D-33, E-6 ^e , D-76, D-77
Below Morelos Dam	56b	88/24W-28 ^e	May 1953	S	DWR	D-34, D-6 ^e
<u>Cuyama River</u>						
Near Garey	44a	10N/33W-25	October 1950	M	DWR	D-4, E-56, E-7
<u>Escondido Creek</u>						
Near Harmony Grove	63	123/ 2W-30	March 1951	B	DWR	D-50, E-71, E-80, E-81
<u>Lake Elsinore</u>						
At North Shore	89	63/ 5W- 1	February 1952	B	DWR	E-49, D-70
<u>Forester Creek</u>						
At Mission Gorge Road	65a	153/ 1W-28	November 1957	B	DWR	E-50, D-71
<u>Los Angeles Aqueduct</u>						
Near San Fernando	70	3N/15W-30	April 1951	M	LADWP	D-22, D-23, D-61, D-64
<u>Los Angeles River</u>						
At Figueroa Street	47	13/13W-15	April 1951	M, 3	LADPH, DWR	D-14, D-6 ^e , D-74, D-75
At Pacific Coast Highway	48	43/13W-26	April 1951	M, 3	LADPH, DWR	D-15, D-16, D-6 ^e , D-74
<u>Matilija Creek</u>						
Above Dam	45b	5N/23W-19	May 1953	M	DWR	D-7, E-6 ^e
<u>Mission Creek</u>						
At Whittier Narrows	49a	28/11W- 6	April 1951	M	DWR	D-19, E-61, E-70
<u>Mojave River</u>						
At The Forks	67a	3N/ 3W-18	July 1957	M	DWR	D-26, E-77
Near Victorville	67	6N/ 4W-29	March 1951	M	DWR	D-27, E-6 ^e
<u>New River</u>						
At International Boundary	57	173/14E-14	April 1951	B	DWR	D-37, D-6 ^e
Near Westmorland	58	123/13E-30	February 1951	B	DWR	D-38, E-6 ^e
<u>Piru Creek</u>						
Near Piru	46c	4N/18W-20	June 1957	M	DWR	D-11, E-6 ^e

a. Except as indicated below location is referenced to San Bernardino Base and Meridian.

b. Beginning of record.

c. M - Monthly, B - Bi-monthly, S - Semiannually.

d. DWR, Department of Water Resources; MWD, Metropolitan Water District; LADPH, Los Angeles Department of Public Health; LBDPH, Long Beach Department of Public Health.

e. Gila and Salt River Base and Meridian.

TABLE D-1
SAMPLING STATION DATA AND INDEX

SURFACE WATER STATION LOCATIONS
YEARS 1962-1963
(continued)

Station	Station Number	Location ^a	Period of Record	Frequency of Sampling	Sampled by	Analysis on Page
<u>Bio Hondo</u>						
At Whittier Narrows	49	2S/11W- 6	April 1951	M	DWR	D-17, D-61, D-74, D-75
Above Spreading Grounds	49b	2S/12W-12	May 1963	M	DWR	D-18, D-61, D-75
<u>Salton Sea</u>						
At Salton Sea State Park	68a	7S/10E- 2	March 1955	B	DWR	D-33, D-69
<u>San Diego River</u>						
At Old Mission Dam	65	15S/ 2W-25	April 1951	B	DWR	D-54, D-71
Near Mission Gorge Road	65c	15S/ 2W-35	July 1962	B	DWR	D-56, D-71, D-80
<u>San Dieguito River</u>						
Below San Pasqual Valley	64	13S/ 2W- 1	April 1951	B	DWR	D-53, D-71
<u>San Gabriel River</u>						
At Azusa Powerhouse	50d	1N/10W-22	March 1957	M	DWR	D-20, D-61, D-75
At Whittier Narrows	50	2S/11W- 5	April 1951	M	DWR	D-21, D-61
<u>San Luis Rey River</u>						
Near Pala	62	9S/ 2W-30	March 1951	B	DWR	D-51, D-71
<u>Santa Ana River</u>						
Near Montrose	51b	1S/ 2W- 4	April 1951	M	DWR	D-42, D-70, D-79
Near Arlington	51	2S/ 6W-25	January 1951	M	DWR	D-43, D-70, D-78, D-79
Near Norco	51e	2S/ 7W-30	April 1951	M	DWR	D-44, D-70, D-78, D-79
Below Prado Dam	51a	3S/ 7W-29	April 1951	M	DWR	D-45, D-70, D-78, D-79
<u>Santa Clara River</u>						
At Los Angeles-Ventura County Line	40	4N/17W-30	April 1951	M	DWR	D-9, D-60, D-74, D-75
Near Santa Paula	40a	3N/21W-12	April 1951	M	DWR	D-10, D-60, D-74, D-75
<u>Santa Margarita River</u>						
Near Fallbrook	51c	9S/ 4W-12	February 1951	B	DWR	D-50, D-71
<u>Santa Paula Creek</u>						
Near Santa Paula	40e	4N/21W-27	June 1957	M	DWR	D-13, D-60
<u>Santa Ynez River</u>						
At Carhuna Reservoir	44b	6N/30W-19	April 1958	M	DWR	D-5, D-59, D-73
Near Solvang	45a	6N/31W-22	April 1951	M	DWR	D-6, D-59
<u>Sepe Creek</u>						
Near Fillmore	40d	4N/20W-12	June 1957	M	DWR	D-12, D-60
<u>Spring Valley Creek</u>						
Near La Presa	65b	17S/ 1W-17	March 1958	B	DWR	D-57, D-71
<u>Tia Juana River</u>						
At International Boundary	66	19S/ 2W- 1	April 1951	B	DWR	D-58, D-71
<u>Ventura River</u>						
Near Ventura	61	3N/23W- 8	May 1951	M	DWR	D-8, D-61, D-74, D-75
<u>Warm Creek</u>						
At Colton	50b	1S/ 4W-21	April 1951	M	City of San Bdo.	D-40, D-70, D-78, D-79

a. Except as indicated below location is referenced to San Bernardino Base and Meridian

b. Beginning of record

c. M - Monthly, B - Bi-monthly, S - Semi-annually

d. DWR, Department of Water Resources; MWD, Metropolitan Water District; LADPH, Los Angeles Department of Public Health; LBDPH, Long Beach Department of Public Health.

TABLE D-I
SAMPLING STATION DATA AND INDEX

SURFACE WATER STATION LOCATIONS
YEARS 1961-1963
(continued)

Station	Station Number	Location ^a	Period of Record ^b	Frequency of Sampling ^c	Sampled by ^d	Analysis on page
<u>Warm Creek</u>						
At San Bernardino	50c	13/ 44-15	April 1951 through 1963	M	DWR	D-47, D-70
<u>Whitewater River</u>						
Near Whitewater	08	33/ 36- 2	February 1951	B	DWR	D-40, E-69
Near Mecca	08B	73/ 9E-31	July 1957	B	DWR	D-41, D-69

a. Except as indicated below location is referenced to San Bernardino Base and Meridian.

b. Beginning of record.

c. M - Monthly, B - Bimonthly, S - Semiannually.

d. DWR, Department of Water Resources; MWD, Metropolitan Water District; LADPH, Los Angeles Department of Public Health; LEDPH, Long Beach Department of Public Health.

TABLE D-2

ANALYSES OF SURFACE WATER

CENTRAL COASTAL DRAINAGE PROVINCE I
CUTAYA RIVER NEAR DAREY (Station 44a)

Date of analysis and sampled P.S.T.	Discharge Temp in cfs in day	Dissolved oxygen in ppm	Specific conductance in micro-mhos at 25°C	Mineral constituents in equivalents per million												Total dissolved solids in ppm	Hardness as CaCO ₃ Total in ppm	Tur- bidity in ppm	Analyzed by				
				pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Barium (Ba)					Silica (SiO ₂)	Other constituents		
Water Year 1962-1963																							
10-2-62 0750	Dry No flow																						
11-14-62 0725	Dry No flow																						
12-4-62 0750	Dry No flow																						
1-15-63 0745	Dry No flow																						
2-5-63 0750	1 est.	52	8.0	72	2033	7.9	189 9.13	5.8 0.15	0	332 5.44	739 15.39	92 2.59	0 0.00	0.95 0.05	0.33	24		1589	26	846 574	<25 <25	240 240	DWR
3-5-63 0730	Dry No flow																						
4-2-63 0945	Dry No flow																						
5-6-63 1005	15 est.	58	8.8	86	1332	7.9	125 6.24	4.8 0.12	0	229 3.76	467 9.73	57 1.61	1.2 0.02	0.83 0.04	0.30	10	PO ₄ = 0.0 ABS = 0.03	989	27	541 353	<25 <25	240 240	DWR
6-3-63 1945	1 est.	81	9.0	110	1698	7.8	146 7.29	4.8 0.12	0	266 4.04	649 13.52	79 2.23	0.5 0.00	0.92 0.05	0.32	8		1319	26	722 520	<25 <25	62 62	DWR
7-1-63 1410	1 est.	80	11.0	137	1821	7.8	172 8.78	4.7 0.12	0	290 4.76	682 14.26	86 2.43	0.4 0.00	1.0 0.05	0.33	9		1408	25	802 564	<25 <25	7000 1300	DWR
8-1-63 0730	Dry No flow																						
9-1-63 1530	Dry No flow																						

TABLE D-2
ANALYSES OF SURFACE WATER

CENTRAL COASTAL HAWAIIAN PROVINCE I
SANTA YNEZ RIVER AT CACHOPIA RESERVOIR (Test from lab.)

Date and time sampled P.S.T.	Pure H ₂ O (above salinity Gross)	Temp in of salinity Gross	Dissolved oxygen ppm	Specific conductance at 25°C	pH	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent sodium in ppm	Hardness as CaCO ₃ Total N C ppm ppm	Tur- bidity ppm	Analyzed by C	
						Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)						Silica (SiO ₂)
Water Year 1962-1963																					
10-1-62 1963	4.95 to spill	74	8.8	794	8.2	4.1 1.78			0 0.00	1.08 3.24		17 0.43					21	335	173	<25	45 45
11-14-62 0950	5.75 to spill	64	8.4	798	7.5	4.1 1.78			0 0.00	2.06 3.38		14 0.39					21	343	174	<25	2-3 2-3
12-5-62 0930	6.15 to spill	60	7.6	790	7.6	3.7 1.61			0 0.00	2.05 3.36		15 0.42					19	340	172	<25	0.46 0.6
1-15-63 1050	6.95 to spill	54	7.2	777	7.7	4.1 1.78			0 0.00	2.01 3.30		16 0.43					20	337	172	<25	0.45 0.45
2-5-63 1030	7.12 to spill	60	12.4	789	8.2	4.1 1.78			0 0.00	2.07 3.40		15 0.42					22	313	143	<25	0.45 0.6
3-5-63 1140	8.78 to spill	57	8.0	793	7.8	4.1 1.78			0 0.00	2.08 3.36		15 0.42					22	310	144	<25	0.6 2-3
4-2-63 1105	8.70 to spill	58	8.0	776	8.2	4.0 1.74			0 0.00	2.01 3.30		14 0.39					22	316	151	<25	1.3 0.6
5-6-63 1430	8.68 to spill	65	8.2	770	8.3	4.1 1.78	3.7 0.09		0 0.00	2.10 3.44	21.7 4.58	14 0.39	1.2 0.02	0.46 0.02	9	503	21	323	151	<25	6.2 23
6-4-63 1100	7.17 to spill	69	10.0	776	8.4	4.0 1.74			0 0.00	2.10 3.44		13 0.31					20	347	175	<25	0.6 23
7-1-63 1040	8.00 to spill	68	10.8	764	7.9	4.1 1.78			0 0.00	2.10 3.44		14 0.39					20	355	183	<25	6.2 23
8-1-63 1315	8.38 to spill	70	10.2	763	8.5	4.0 2.00			0 0.00	1.95 3.20		10 0.25					23	327	167	<25	4.6 1.6
9-4-63 0930	11.43 to spill	74	10.0	756	8.5	4.2 1.75			0 0.00	1.78 2.78		15 0.42				532	22	321	175	<25	24 0.6

TABLE D-2
ANALYSES OF SURFACE WATER

CHETLICK CREEK, LAMAR, ILLINOIS
SANT. RIVER NEAR "OUTLET" (Station 45m)

Date and time sampled PST	Discharge Temp in cts	Dissolved oxygen in % sat	Specific Conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium	Hardness as CaCO ₃ Total TNC ppm	Turbidity in ppm	Analyzed by C
					Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Boron (B)	Silica (SiO ₂)			
Water Year (1962-1963)																			
10-1-62 Dry																			
10-1-62 No flow																			
11-1-62 Dry																			
11-1-62 No flow																			
12-1-62 Dry																			
12-1-62 No flow																			
1-15-63 3	40	11.0	47	7.9	11.0	8.0	0.5	3.0	0	4.23	3.17	5.0	0.5	0.5	0.34	2.3	903	18	279
1-15-63 1000	est.				5.74	6.55	2.73	0.07	0.07	6.74	6.01	1.55	0.05	0.02				23	DMR
2-5-63 0	55	12.0	112	8.0			0.8		0	4.10	5.1	5.1			0.36			25	DMR
2-5-63 1000	est.				2.76		2.76	0.06	0.06	6.76	5.76	1.14						25	DMR
3-5-63 0	49	11.3	110	7.8	4.0	6.7	0.4	2.3	0	3.37	2.76	4.5	4.3	0.50	0.38	2.3	774	22	284
3-5-63 1300	est.				4.09	5.51	2.78	0.07	0.07	5.52	5.76	1.27	0.07	0.02				25	DMR
4-2-63 0	59	14.0	138	8.4			0.1		0	3.53	5.76	4.1			0.30			25	DMR
4-2-63 1000	est.						2.65	0.06	0.06	5.76		1.16						25	DMR
5-6-63 7	75	11.6	140	8.2	7.5	6.5	0.3	2.4	0	3.34	2.57	4.4	1.0	0.46	0.35	2.6	695	23	182
5-6-63 1300	est.				3.76	5.35	2.76	0.06	0.06	5.43	5.35	1.25	0.01	0.02				25	DMR
6-4-63 0	72	11.2	127	8.1	0.7	0.7	0.2	2.2	0	3.66	5.26	4.9	0.5	0.5	0.34	2.0	774	20	207
6-4-63 1000	est.				3.34	7.16	2.76	0.06	0.06	6.12	5.26	1.38	0.00	0.5				25	DMR
7-1-63 1540	Dry																		
8-1-63 0	Dry																		
8-1-63 0700	No flow																		
4-3-63 1515	Dry																		
4-3-63 1515	No flow																		

TABLE D-3

ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE DISTRICT V

MATILITA CREEK ABOVE DAM (Station 459)

Date and time sampled PST	Discharge Temp in °C in °F	Dissolved oxygen ppm	Specific Conductance of 25°C	pH	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent total solids in ppm	Hardness as CaCO ₃ ppm	Tur- bidity in ppm	Conform with MPN/ml	Analyzed by C		
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)							Boron (B)	Silica (SiO ₂)
Water Year 1962-1963																						
10-2-62 1100	3.5 72	3.0	91	1128	7.8 ^a		73 3.44			0 0.00	245 4.702		69 1.795			2.14		28	44.3	24.7	25	2.3 2.3
11-13-62 1835	4.0 94	10.4	97	1133	8.1 ^a		73 3.13			0 0.00	246 4.704		67 1.789			1.06		26	44.3	24.1	25	6.2 6.2 0.45
12-4-62 1920	2.5 62	7.0	77	1140	7.4 ^a		75 3.26			0 0.00	245 4.704		66 1.786			1.02		26	405	20.3	25	6.6 2.3
1-15-63 1345	6.3 93	9.8	86	1114	8.1		73 3.13			0 0.00	240 4.701		66 1.786			1.94		27	430	23.7	25	2.3 2.3
2-5-63 1945	4.5 64	8.0	94	1150	7.9		81 3.52			0 0.00	244 4.703		63 1.775			1.08		29	44.1	24.1	25	13 62
3-5-63 1560	11 54	4.4	93	1043	8.0		54 2.47			0 0.00	232 3.762		27 0.776			0.90		23	433	24.3	25	62 21
4-2-63 1500	13 62	7.7	80	1029	8.2		57 2.47			0 0.00	231 3.763		29 0.782			0.94		23	413	22.4	25	6.2 130
5-7-63 0900	4.3 62	7.4	86	1019	8.0		63 2.56	2.5 0.06	0 0.00	256 4.720	306 6.33	30 0.795	1.4 0.02	1.0 0.05	0.92	18	687	425	215	25	5 6.2	
6-4-63 1400	5.4 70	8.6	86	1022	8.0		62 2.76		0 0.00	233 3.762		38 1.110			1.08		24	430	24.5	25	62 240	
7-2-63 1126	5.9 70	4.2	102	1050	7.6		67 2.71		0 0.00	244 4.703		48 1.35			1.40		24	452	25.2	25	62 5	
8-1-63 1400	2.5 72	9.0	102	1115	8.1		81 3.47		0 0.00	255 4.716		67 1.789			2.50		29	426	21.7	25	240 2.3	
9-4-63 1254	3.1 65	4.0	105	1104	7.9		84 3.67	5.0 0.13	0 0.00	251 4.712	286 5.76	85 2.410	1.0 0.01	1.4 0.07	2.60	25	819	439	233	25	70 70+	

TABLE D-3

ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE
VENTURA RIVER NEAR VENTURA (Station 61)

Date and time of day and PST	Discharge in cfs	Temp in °F	Dissolved oxygen in % sat	Specific conductance at 25°C	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent total solids in ppm	Hardness as CaCO ₃ Total ppm	Tur- bid- ity in ppm	Analyzed by C			
					equivalents per million																	
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potash- ium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fide (SO ₄)	Chlo- ride (Cl)	Ni- tro- gen (NO ₃)	Fluo- ride (F)						Borax (B)	Silica (SiO ₂)	Other constituents
Water Year 1962-1963																						
10-2-62 1200	Dry No flow																					
11-13-62 1520	2.6	62	9.0	97.8			63 2.76		0 0.00	307 5.76		4.8 1.35			0.52		22	488	236	25	2.3 6.2	DMR
12-5-62 1120	0.5	62	10.8	110			64 2.78		0 0.00	310 5.13		55 1.55			0.46		22	507	24.8	25	6.2 6.2	DMR
1-15-63 1250	1.1	54	10.8	100			70 3.06		0 0.00	327 5.36		58 1.64			0.49		23	519	251	25	2.3 6.2	DMR
2-5-63 1350	1.5	Not given	8.4	Not given			73 3.13		0 0.00	337 5.52		60 1.69			0.57		24	504	223	25	23 24.0	DMR
3-5-63 1320	3.2	59	9.0	89			64 2.78		0 0.00	293 4.96		50 1.41			0.60		24	446	206	25	24.0 62	DMR
4-2-63 1400	3.4	65	11.2	118			64 2.78		0 0.00	273 4.93		52 1.47			0.45		25	426	202	25	24.0 24.0	DMR
5-7-63 0730	4.4	61	11.0	111			65 2.77		0 0.00	305 5.00		52 1.47	9.0 0.15	0.74 0.06	0.54 1.6		780	477	227	25	130 2.3	DMR
6-4-63 1200	3.5	70	9.6	107			75 3.26		0 0.00	282 4.62		52 1.47			1.0		26	471	240	25	100+ 700	DMR
7-2-63 1030	1.4	68	13.2	143			66 2.37		0 0.00	292 4.78		52 1.47			0.48		23	489	250	25	62 62	DMR
8-1-63 1300	2.0	68	12.6	133			63 2.74		0 0.00	295 4.94		48 1.35			0.63		22	432	240	25	700+ 700	DMR
9-4-63 1115	0.2	68	13.0	142			70 3.05		0 0.00	337 5.52		62 1.75	0.5 0.01	0.8 0.06	0.55 1.6		860	508	232	25	62 23	DMR

AS = 0.00
PO₄ = 0.00
ABS = 0.00PO₄ = 0.1
ABS = 0.1

SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE (Station 46)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	% Sat	Specific gravity at 25°C	Mineral constituents in parts per million											Total solids in ppm	Percent solid in ppm	Hardness as CaCO ₃ Total NC ppm Dm	Tur- bid- ity in NTU	Conform- ance MFL/ml	Analyzed by C
						Equivalents per billion										Other constituents						
						Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- tra- te (NO ₃)	Fluo- ride (F)							
Water Year 1962-1963																						
10-1-62 0900	0.8	72	9.2	104	3709	7.9 ^a	454 19.75			0 0.00	387 6.34		216 6.09		1.38	1307	990	25	2.3	DNR		
11-13-62 1100	1.1	62	9.6	99	3987	8.1 ^a	484 21.05			0 0.00	421 6.90		203 5.72		1.30	1336	991	25	6.2	DNR		
12-4-62	0.9	66	7.6	77	1140	7.7 ^a	75 3.26			0 0.00	246 4.04		66 1.86		1.62	465	263	25	0.6	DNR		
1-14-63 1110	1.5	58	11.2	109	3297	8.0	371 16.11			0 0.00	405 6.64		174 4.91		1.22	1190	854	25	6.2	DNR		
2-4-63 1210	1.0	68	9.0	105	3238	7.7	370 16.10			0 0.00	353 5.78		170 4.79		1.05	1076	787	25	240	DNR		
3-4-63 1000	1.2	48	8.0	69	3118	6.8	353 15.36			0 0.00	427 7.00		152 4.29		1.22	1073	72	25	62	DNR		
4-3-63 1030	1.5	64	9.4	98	2925	7.0	244 12.80			0 0.00	426 6.98		131 3.69		0.83	1066	717	125	230	DNR		
5-8-63 1100	3.9	70	9.6	98	2595	7.2	225 11.23	103 4.47	6.9 0.18	0 0.00	410 6.72	1040 21.67	108 3.05		1.1 0.01	985	644	25	62	DNR		
6-4-63 1745	2.2	70	9.8	109	3270	7.0	355 15.44			0 0.00	407 6.88		174 4.91		1.18	1240	900	25	240	DNR		
7-2-63 1520	1.2	84	10.2	131	3340	7.6	392 17.03			0 0.00	365 5.98		212 5.98		1.15	1260	941	25	62	DNR		
8-1-63 1900	0.40	84	9.6	123	4327	8.2	550 23.73			0 0.00	393 6.44		200 7.33		2.14	1460	113	25	13	DNR		
9-4-63 1800	0.60	68	10.0	109	3623	8.0	442 12.32	150 6.70	8.0 0.20	0 0.00	403 6.60	1965 35.60	190 5.53		1.4 0.07	1257	92	25	70	DNR		

TABLE D-3

ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE V

SANTA CLARA RIVER NEAR SANTA PAULA (Station 104)

Date and time on which sampled P.S.T.	Discharge Temp. in °F at point	Dissolved oxygen ppm	Specific conductance (micro-mhos at 25°C)	pH	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent solids in ppm	Hardness as CaCO ₃ Total ppm	Tur- bidity in ppm	Conform with MPN/ml	Analyzed by
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)						
Water Year 1902-1903																				
10-1-02 1205	20 est.	9.6 106	2381	8.1 ^a	194 57.11			0 0.00	333 57.46		93 27.62	1.02		29	1024	751	25	24 6.2	DMR	
11-13-02 1310	30 est.	10.0 104	2237	7.8 ^a	174 77.57			0 0.00	336 57.50		80 27.26	0.94		29	939	664	25	23 23	DMR	
12-4-02 1330	30 est.	10.8 118	2159	7.9 ^a	150 67.92			0 0.00	338 57.94		80 27.26	0.79		26	916	639	25	6.2 6.2	DMR	
1-14-03 1425	30 est.	9.6 91	2120	7.7	163 77.09			0 0.00	336 57.50		78 27.26	0.91		28	899	624	25	24.0	DMR	
2-4-03 1415	35 est.	9.2 101	2105	8.0	169 77.35			0 0.00	332 57.44		80 27.26	0.99		31	827	555	25	24.0 23	DMR	
3-4-03 1420	30 est.	9.0 84	1956	7.8	150 67.53			0 0.00	303 47.36		74 27.09	1.06		30	767	519	25	6.2 700+	DMR	
4-3-03 0725	30 est.	9.8 85	1306	7.8	92 47.00			0 0.00	248 47.06		37 17.04	0.78		28	516	313	250	700+	DMR	
5-7-03 1000	35 est.	9.2 37	2513	7.8	236 117.78	100 57.26	7.4 0.19	0 0.00	366 67.00	1050 217.98	94 27.65	1.14 0.06	P ₀₄ = 0.05 AB 3 = 0.04	33	1002	702	25	62 62	DMR	
6-4-03 1000	35 est.	9.8 107	2430	7.8	201 87.74			0 0.00	310 57.08		95 27.63	1.01		30	1030	776	25	50 240	DMR	
7-2-03 1300	30 est.	9.4 108	1750	7.9	141 67.13			0 0.00	267 47.39		75 27.12	0.81		29	743	529	25	700 62	DMR	
8-4-03 1000	10 est.	9.2 106	1970	8.2	170 74.50			0 0.00	321 57.26		90 27.94	1.25		32	795	532	25	23 6.2	DMR	
9-4-03 1500	18 est.	9.4 106	1973	7.9	188 97.35	80 57.62	9.5 0.24	0 0.00	331 57.42	709 147.77	90 27.71	0.32 0.06	P ₀₄ = 0.00	31	800	529	25	70 70+	DMR	

TABLE D-3

ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE, U

PIRU CREEK NEAR PIHU (Station 46c)

Date and time sampled P.S.T.	Discharge Temp in °F	Dissolved oxygen in ppm	Specific conductance at 25°C in $\mu\text{mhos/cm}$	Mineral constituents in equivalents per million												Total dis- solved solids in ppm	Per- cent sod- ium	Hardness as CaCO_3		Tur- bidity in MPN/ml	Analyzed by C
				Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- dioxide (CO_2)	Bicar- bonate (HCO_3)	Sul- fate (SO_4)	Chlo- ride (Cl)	Nit- rate (NO_3)	Fluor- ide (F)	Barium (Ba)	Silica (SiO_2)						
															Total N			ppm			
Water Year 1962-1963																					
10-1-62 est.	15	9.2	100			72 3.13		0	224 3.03		23 0.05				0.91	25	462	279	25	6.2 24	
11-13-62 est.	15	10.4	103			174 7.57		0	272 4.46		25 0.71				0.90	29	535	312	25	13 23	
12-4-62 est.	15	10.3	105			100 4.35		0	276 4.32		31 0.89				0.91	27	570	370	25	13 70	
1-14-63 1145	12	12.0	100			102 4.24		14	259 4.20		34 0.96				0.92	27	594	359	25	2.3 3.2	
2-4-63 est.	15	10.8	108			90 4.13		0	249 4.08		31 0.89				1.02	29	509	305	25	23 13	
3-4-63 1150	15	9.0	77			125 5.44		0	318 5.22		34 0.96				1.28	32	581	320	25	23 1.3	
4-3-63 0930	35	10.4	98			59 2.57		0	212 3.43		19 0.54				0.90	24	403	229	25	62 62	
5-7-63 1800	10	9.8	100	108 5.39	42 3.47	79 3.24	5.3 0.11	0 0.00	234 3.84	388 8.09	23 0.65	1.0 0.01	1.1 0.06	1.00	15	28	443	251	25	23 62	
6-4-63 1715	5	10.2	111	1000 8.0		123 5.35		0 0.00	276 4.32		38 1.07				1.22	29	602	430	25	23 240	
7-2-63 est.	10	9.0	115	1509 7.9		134 5.83		0 0.00	205 4.34		30 1.02				1.15	32	610	373	25	62 240	
8-1-63 1830	4	9.2	120	1401 8.4		141 6.13		0 0.00	173 2.34		41 1.16				1.34	38	500	358	25	5 240	
9-4-63 est.	10	9.5	107	1533 8.2		134 5.83	6.3 0.17	0 0.00	208 4.38	558 11.62	35 0.99	0 0.00	1.3 0.67	1.30	22	33	579	335	25	24 70+	

TABLE D-3
ANALYSES OF SURFACE WATER

LAS JUANES TRINIDAD, CUBA

NEPPE CREEK NEAR FILLMORE (Station 44)

Date and time sampled PST	Discharge Temp in cts	Dissolved oxygen ppm	Specific conductance (micromhos at 25°C)	Mineral constituents in parts per million										Total dis- solved solids in ppm	Per- cent total solids in ppm	Hardness as CaCO ₃ ppm	Total N.C. in ppm	Total hard- ness in ppm	Coliforms, b MPN/ml	Analyzed by C
				equivalents																
				Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)							
Water Year 1962-63																				
12-1-62	72	13.0	154	1323	3.24	104	0	159	75	2.12	1.74			32	430	360	25	40	DMR	
1-14-62	60	14.4	146	1387	4.14	105	0	173	20	2.54	1.75			33	462	320	25	0.45	DMR	
11-13-62	62	15.0	154	1380	7.34	109	0	133	97	2.74	1.82			33	441	331	25	2.3	DMR	
12-4-62	50	14	123	1412	8.24	120	0	212	90	2.71	2.30			34	509	335	25	0.0	DMR	
1-14-63	60	10.6	100	1330	7.9	102	0	210	69	1.75	1.42			33	471	243	25	2.3	DMR	
2-4-63	52	9.4	55	1202	8.2	97	0	214	58	1.74	1.20			33	422	247	25	2.3	DMR	
3-4-63	40	11.2	98	1099	8.2	73	0	212	37	1.74	0.90			28	418	244	25	13	DMR	
5-7-63	62	11.5	113	920	9.0	73	2.0	173	35	1.4	1.02	12		32	335	143	40	2.3	DMR	
7-10-63	62	11.0	112	1072	8.2	31	0	187	50	0.99	0.06			31	400	247	25	700	DMR	
9-4-63	60	13.0	151	1513	7.8	94	0	209	60	1.74	1.15			27	634	523	25	4.2	DMR	
7-2-63	74	10.6	120	1094	8.5	120	0	178	93	2.74	2.30			45	312	164	25	62	DMR	
8-1-63	73	10.4	119	1052	8.4	113	3.4	155	285	100	1.4	22		47	240	143	25	2.3	DMR	
10-1-63						3.73	5.71	2.54	5.71	2.72	0.07	0.00		0.1					4.5	DMR
																			0.00	

LOS ANGELES DRAINAGE PROVINCE
SANTA PAULA CREEK NEAR SANTA PAULA (Station 40e)

D-13

TABLE D-3
ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE
LOS ANGELES RIVER AT FIGUEROA STREET (Station 47)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	% Sat	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per cent sodium in ppm	Hardness as CaCO ₃ Total in ppm	Tur- bid- ity in ntu	Coliform MPN/ml	Analyzed by C
							Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)						
Water Year 1962-63																						
11-7-62 1100	0.1	64	6.50	63.5	8.2	112	37	446.2		0	240	621.4	640	7		2.0		400		940	WMD	
12-5-62 1030	0.03	57	6.04	64	8.1	112	43	598		40	350	518.5	670	2		1.2		350		904 64	WMD	
1-9-63 1200	+ Flow	63	7.5	77	8.1	114	90	445		0	375	518.5	640	0				1970			LADPH	
2-5-63 1000	Trace	60	4.50	45	8.4	110	538.2	2340		35	410	415.9	550	5				1970	25	2.3	LADPH	
3-6-63 1045	+ Flow	65	11.12	117	8.2	94	92.5	460		75	225	438.2	490	2.0		1.4		1009	25	46	LADPH	
4-3-63 1045	0.14	63	13.0	105	8.4	73	53.5	947.6		100	230		330	0		0.5		1441		11000+	LADPH	
5-8-63 1315	0.10	70	12.2	131	23.1	69	47.39	412.25		14	241	422	360	1.6	1.04	1.8	17	437	71	23 620	DWR	
6-5-63 1040	0.10	69	14.24	157	8.3	78	84	496.8		140	165	518.5	490	3		1.1		1687		2.3	LADPH	
7-3-63 1130	0.10	80	13.12	162	9.4	82	95.5	433		80	250	443.0	530	1.0	1.9			2745		430	LADPH	
8-7-63 1020	+ Flow	71	4	37	7.0	110	88.5	331		20	320	464.1	460	3.0		1.0		1737		High 11000+	LADPH	
9-5-63 1345	8.7	81	10.3	135	7.11	60	15	70		0	171	446	420	13	0.9	0.40	21	522	41	210 500 7000	DWR	

TABLE D-3

ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE, U
LOS ANGELES RIVER AT PACIFIC COAST HIGHWAY (Station 48)

Oats and lime sampled P.S.T.	Discharge Temp in cfs	Dissolved oxygen in gpm	Specific conductance at 25°C	Mineral constituents in equivalents per million												Total dissolved solids in ppm	Per- cent sodium	Tur- bid- ity in ppm	Hardness as CaCO ₃ Total N.C. ppm	Analyzed by
				Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)	Boron (B)	Silica (SiO ₂)					
Water Year 1962-1963																				
10-7-62 0750	15.4	74	1.2	12	230 11.48	118 9.70	3150 137.03	39 1.00	0 0.00	554 9.08	202 4.72	5175 145.74	3.0 0.05	0.82 0.04	10	29	PO ₄ = 5.6; AS = 3.6 NH ₄ = 21.1; AS = 2.1	9800 9550	85 25	DNR 240 700000 13DPH
11-7-62	14.0	6.8	Net available		210	152	3000	0	0.00	3.08	471	5300	0							13DPH
12-5-62 1030	13.8	0.1			202	183	3000	0	0.00	284	446	4650	0.2							13DPH
1-9-63 1100	13	0.4	0	0	275 13.72	340 27.95	4800 203.5	0	0.00	240 3.74	924 19.70	8190 237.05	0.2 0.003				Cr ⁺⁶ = 0.0 Oil & grease = 62	16140	*	2400 13DPH
2-6-63 1000	12.1	0.3	0.6	6.2	272 13.27	522 42.70	4700 204.5	0	0.00	250 4.10	912 19.95	7610 21.13	1.9 0.03				Cr ⁺⁶ = 0.29 Oil & grease = 45	15730	0	0200 13DPH
3-6-63 2300	11.1	66	1.9	20	380 18.75	415 34.05	2600 257.0	0	0.00	352 5.35	10610 239.20	0	0.00				Cr ⁺⁶ = 0.0	21	24	13DPH
4-3-63 1030	10.2	66	1.0	17	193 8.14	75 6.17	2150 93.6	0	0.00	241 3.75	230.5 4.70	3209 90.60	0 0.00				5-day BOD = 99.0 Oil & grease = 38.0 Alkalinity = 160.0 Cr ⁺⁶ = 0.01	6777	***	500 13DPH
5-4-63 1345	11.5	76	9.0	1	267 13.30	131 10.76	4340 195.7	39 1.00	0 0.00	468 7.23	120 2.51	7075 177.5	19 0.29	1.15 0.06	13.0	52	NH ₄ = 27 Oil & grease = 152	12742	88	230 60 DNR
6-5-63 1000	10	75	0.4	41	273 13.28	230 15.90	3500 152.3	0	0.00	316 5.13	207 4.73	5810 157.70	1.15 0.02				Cr ⁺⁶ = 0.0 Oil & grease = 19	10950	**	24000 13DPH
7-10-63 1100	14.0	73	0	0	275 13.72	375 30.21	3500 152.3	0	0.00	333 5.46	301 7.02	7235 21.30	0 0.00				Phenols = 0.15 Cr ⁺⁶ = 0.0 Oil & grease = 223 5-day BOD = 142.0 Alkalinity = 333.0	13500	***	2.1 13DPH
8-7-63 1010	19.4	77			337 16.86	190 15.61	4250 205.7	0	0.00	394 6.04	136 4.76	9200 237.30	0.06 0.00				5-day BOD = 212 Cr ⁺⁶ = 0.0 Phenols = 0.3 Alkalinity = 393	15976	***	24 13DPH

TABLE D-3

ANALYSES OF SURFACE WATER

LOS ANGELES COUNTY

RIO HONDO AT WHITTIER MARSHES (Station 49)

Date and time of day P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Specific conductance (micromhos at 25°C)	Mineral constituents in equivalents per million											Total dissolved solids in ppm	Per- cent solids in ppm	Hardness as CaCO ₃ Total in ppm	Tur- bid- ity in ppm	Conform MPPN/ml	Analyzed by		
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)	Boro- n (B)							Silico n (SiO ₂)	Other constituents
Water Year 1962-1963																							
10-3-62 1110	100	73	7.5	1125	7.9 ^a	100 4.35		0	145 0.00	301 0.27	94 2.65			0.13			39	341	222	25	240	240	DRR
11-3-62 0950	3.4	62	6.0	952	7.0 ^a	77 3.35		0	243 0.00	66 1.96				0.22			35	315	116	25	23	23	DRR
12-4-62 0910	35.0	62	9.0	1178	7.9 ^a	102 4.44		0	163 0.00	302 0.29	96 2.71			0.13			38	356	222	25	240	240	DRR
1-10-63 0420	15	52	10.0	1190	7.7	136 5.76		0	174 0.00	298 0.28	99 2.79			0.14			51	286	143	25	240	240	DRR
2-7-63 1450	8	69	6.4	1144	7.4	113 4.72		0	262 0.00	225 4.62	71 2.57			0.27			42	334	121	25	700	700	DRR
3-7-63 1200	17.3	58	6.4	1171	8.0	133 5.79		0	178 0.00	287 2.92	97 2.76			0.17			51	276	130	25	50	62	DRR
4-4-63 0950	17.6	60	10.8	1158	8.2	144 6.76		0	159 0.00	308 2.65	95 2.65			0.11			43	333	203	25	700	700	DRR
5-1-63 0630	4.0	66	3.0	687	9.0	79 3.74	7.4 0.19	0	239 0.00	191 3.36	68 1.92	1.5 0.02	1.30 0.07	0.26 0.15	23		560	294	88	25	6.2	21	DRR
6-5-63 0930	4.0	62	7.4	1123	7.8	104 4.52		0	285 0.00	221 4.60	89 2.51			0.39			38	369	135	25	700	700+	DRR
7-2-63 1730	5.2	74	10.0	796	7.6	71 3.09		0	297 0.00	88 1.93	64 1.93			0.19			39	252	82	25	700+	62	DRR
8-2-63 1400	1.0	96	9.0	1152	8.5	95 4.13		0	246 0.00	290 5.21	98 2.76			0.40			36	361	159	25	240	130	DRR
9-5-63 2000	14.0	77	8.2	1030	5.5	106 4.24	9.6 0.25	0	195 0.00	213 4.54	93 2.15	24 0.38	1.7 0.09	0.40 0.15	33		701	295	143	25	700+	700+	DRR

TABLE D-3

ANALYSES OF SURFACE WATER

LAS ANIMAS CANYON, MONTANA

MISSION CREEK AT WHITTIER NARROWS (Station 494)

Date and time of day and P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance at 25°C	pH	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per cent acid-soluble in ppm	Hardness as CaCO ₃ Total ppm	Tur- bid- ity in NTU	Conform- ing with EPA/ml	Analyzed by																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)							Bor- on (B)	Silica (SiO ₂)	Other constituents																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Water Year 1962-1963																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

TABLE D-3

ANALYSES OF SURFACE WATER

LOS ARRIELAS DAM AREA, PROVINCE OF

SAN GABRIEL AT AZUSA POWER HOUSE (Station 364)

Date and time sampled PST	Discharge Temp in °F	Dissolved oxygen % Sat	Specific conductance microhm/cm at 25°C	pH	Mineral constituents in — parts per million —											Total dissolved solids in ppm	Per cent solids in ppm	Hardness as CaCO ₃ Total in ppm	Tur- bidity in ppm	Analyzed by		
					equivalents per million																	
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- tro- ride (NO ₃)	Fluo- ride (F)	Boron (B)						Silico- nium (SiO ₂)	Other constituents
Water Year 1962-1963																						
10-3-62 0920	92	68	8.8	46	402	7.7 ^a	13 0.57	0	0.00	214	3.50	5	0.11	0.10		13	187	12	< 25	< 0.45	DWR	
11-14-62 1400	80 est.	60	10.0	11.5	463	8.0 ^a	12 0.52	0	0.00	262	4.30	4	0.11	0.10		220	220	5	< 25	0.6	DWR	
12-3-62 0825	80 est.	56	10.4	9	462	7.9 ^a	12 0.52	0	0.00	260	4.26	3	0.03	0.03		220	11	220	7	< 25	0.6	DWR
1-9-63 1530	80 est.	52	12	10.3	461	7.6	14 0.61	0	0.00	250	4.10	6	0.17	0.10		12	218	13	< 25	0.46	DWR	
2-6-63 1940	8 est.	58	10.4	101	447	8.0	14 0.61	0	0.00	248	4.06	5	0.11	0.09		13	200	0	< 25	0.45	DWR	
3-7-63 1320	Dry No flow																					
4-4-63 1150	80 est.	56	11.0	100	403	8.0	14 0.61	0	0.00	206	3.39	5	0.11	0.07		15	175	6	< 25	240	DWR	
5-9-63 1300	96 est.	56	11.2	105	401	8.0	12 0.52	3.8 0.10	0.00	212	3.45	6	0.17	0.50	0.04	230	12	199	15	< 25	240	DWR
6-5-63 1130	37 est.	64	10.8	123	412	7.8	14 0.61	0	0.00	217	3.56	6	0.17	0.03	0.02		14	194	16	< 25	0.2	DWR
7-2-63 2130	37 est.	65	11.2	118	406	8.0	13 0.57	0	0.00	217	3.55	5	0.11	0.10		13	195	17	< 25	0.2	DWR	
8-2-63 1030	37 est.	72	8.0	91	394	8.2	15 0.65	0	0.00	216	3.54	4	0.11	0.12		15	196	9	< 25	240	DWR	
9-6-63 1500	37 est.	72	9.2	104	411	8.2	15 0.65	4.0 0.10	0.00	227	3.72	3	0.03	0.6	0.0	268	14	194	8	< 25	0.45	DWR

TABLE D-3

ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE

SAN GABRIEL RIVER AT WHITTIER NARROWS (Station 90)

Date and time sampled P.S.T	Discharge Temp in cts in °F	Specific conductance at 25°C	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent total in ppm	Hardness as CaCO ₃ in ppm	Turbidity in ntu	Analyzed by	
				equivalents per million															
				Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)						Bromide (Br)
Water Year 1962-1963																			
10-3-62 100 est.	7c	8.8	104			109 4.74		0 0.00	143 2.34	302 6.44	95 2.71			0.13		343 226	< 25	62 50	DMR
11-13-62 100 est.	68	9.2	100			97 4.22		0 0.00	149 2.41	95 2.63				0.12		343 226	< 25	62 50	DMR
12-4-62 100 est.	58	10.4	101			102 4.11		0 0.00	153 2.50	94 2.55				0.11		353 228	< 25	62 2.0	DMR
1-10-63 0955 No flow																			
2-7-63 149 1600 Dry	59	10.4	101			107 4.65		0 0.00	155 2.54	307 6.70	96 2.71			0.09		200 0	< 25	0.45- 0.6	DMR
3-7-63 1230 No flow																			
4-4-63 1030 Dry	63	12.4	128			113 4.92		0 0.00	156 2.56	305 6.35	95 2.65			0.11		333 205	< 25	7000 62	DMR
5-9-63 1100 No flow																			
6-5-63 1000 Dry																			
7-2-63 2030 No flow																			
8-2-63 1200 No flow																			
9-5-63 1330 Damp No flow																			

TABLE D-3
ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE

LOS ANGELES AQUEDUCT NEAR SAN FERNANDO (Station 70)

Date and time sampled P.S.T.	Discharge Temp. in air in °F	Specific Conductance at 25°C	Mineral constituents in equivalents per million							Total dissolved in ppm	Per cent sodium	Hardness as CaCO ₃ Total ppm	Turbidity in nephelometric units	Coliforms per 100 ml	Analyzed by
			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Silica (SiO ₂)		
Water Year 1962-1963															
10-16-62	4.94	395	27	6.8	4.0	4.3	--	--	28	19	0.6	0.60	0.57	24	
11-13-62	347.1	313	22	4.6	22	3.8	--	--	20	16	0.6	0.63	0.44	22	
12-18-62	475	290	22	4.1	33	3.6	--	--	19	15	0.5	0.52	0.45	22	
1-15-63	486	294	22	3.9	35	3.7			21	15	0.5	0.60	0.54	22	
2-27-63	203	339	27	6.8	31	3.8			29	19	2.0	0.51	0.49	24	
3-19-63	414	353	24	7.3	40	5.7			37	19	0.1	0.58	0.44	22	
4-16-63	401.1	336	24.8	5.4	39.3	4.0			27	18	0.4	0.56	0.44	21	
5-21-63	401.1	336	25	5.4	39	4.0			27	18	0.4	0.56	0.44	21	

TABLE D-3

ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE DISTRICT U
LOS ANGELES AQUEDUCT NEAR SAN FERNANDO (Station 70)
(continued)

Date and time sampled PST	Discharge Temp in cts	Dissolved oxygen ppm	Specific Conductance (micromhos at 25°C)	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent lime re- action in ppm	Hardness as CaCO ₃ Total ppm	Tur- bidity NTU	Calcium MPK/ml	Analyzed by
				Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluor- ide (F)	Bor- on (B)	Silica (SiO ₂)	Other constituents			
Water Year 1962-1963 (continued)																			
6-18-63	493	8.2	315	22 171	5.4 0.46	32 174	3.8 0.10			22 0.45	17 0.43	0.00 0.00	0.44 0.02	0.59	22	Fe = 0.05 AS = 0.07 N = 0.10	6	5.1 2.2	LADMP
7-23-63	495	8.7	276	19 170	3.4 0.3	25 171	3.1 0.08			23 0.50	12 0.32	0.3 0.1	0.47 0.03	0.33	18	Fe = 0.06 AS = 0.013 N = 0.23 5-day BOD = 1.8	5	0.0 0.0	LADMP
8-20-63	495.3	8.6	241	18 0.9	3.9 0.3	26 171	3.4 0.09			21 0.45	12 0.32	0.6 0.02	0.34 0.02	0.30	17	Fe = 0.04 AS = 0.02 NH ₃ = 0.02 5-day BOD = 1.4	9	0.0 0.0	LADMP
9-17-63	495.3	7.6	234	19 170	3.4 0.3	24 1705	2.9 0.07			21 0.45	11 0.30	0.4 0.01	0.32 0.02	0.30	18	Fe = 0.03 AS = 0.002 NH ₃ = 0.01 5-day BOD = 2.1	6	5.1 0.0	LADMP

TABLE D-3

ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE DISTRICT U

COLORADO RIVER AQUEDUCT AT LA VERNE (Station 69)

Date sampled P.S.T.	Discharge Temp in °F	Dissolved oxygen ppm	Specific conductance at 25 °C µmhos/cm	Mineral constituents in equivalents per million											Total dissolved solids in ppm	Per- cent sodium in ppm	Hardness as CaCO ₃ Total ppm	Tur- bid- ity in ppm	Analyzed by			
				Calcium (Ca)	Magne- (Mg)	Sodium (Na)	Potas- (K)	Carbon- (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)	Boron (B)						Silica (SiO ₂)	Other constituents	
Water Year 1962-63																						
October Composite Sample	--	--	1115	87 4.34	30 2.47	105 4.57	5 0.13	1 5.03	137 2.25	314 6.53	94 2.05	1.6 0.03	0.4 0.04	--	9.4	--	716	40	341	227	--	MAD
November Composite Sample	--	--	--	89 4.44	29.5 2.42	109 4.74	4 0.10	1 5.03	142 2.33	312 6.49	98 2.16	1.8 0.03	0.4 0.02	--	9.9	Free CO ₂ = 1	726	41	343	225	1.2	MAD
December Composite Sample	--	--	113.5	90 4.49	30 2.47	104 4.52	5 0.13	1 5.03	143 2.35	312 6.49	96 2.11	1.6 0.03	0.4 0.02	--	9.8	Free CO ₂ = 1 Iron = 30	721	39	348	229	0.9	MAD
January Composite Sample			1120	91 4.54	30 2.47	104 4.52	5 0.13	1 5.03	145 2.39	318 6.61	94 2.05	2.21 0.04	0.4 0.02		9.8	Free CO ₂ = 1	728	39	351	230	1.1	MAD
February Composite Sample	54		1130	91 4.54	29.5 2.42	103 4.48	5 0.13	0 5.00	148 2.43	317 6.59	93 2.02	2.0 0.03	0.4 0.02			Al = 0.01 Free CO ₂ = 1	726	39	348	227	0.8	MAD
March Composite Sample	56		1075	91 4.54	30 2.47	104 4.52	5 0.13	0 5.00	149 2.44	313 6.51	94 2.05	2.1 0.03	0.4 0.02		9.6	Free CO ₂ = 1	724	39	351	229	0.8	MAD
April Composite Sample	59		1125	93 4.74	29.5 2.42	102 4.44	5 0.13	0 5.00	149 2.44	312 6.49	94 2.05	2.0 0.03	0.4 0.02		9.3	CaCO ₃ = 122 Free CO ₂ = 1	722	38	353	231	0.5	MAD
May Composite Sample	63		1120	92 4.59	29.5 2.47	103 4.48	5 0.13	0 5.00	149 2.44	312 6.49	94 2.05	2.9 0.05	0.4 0.02			CaCO ₃ = 122 Free CO ₂ = 1	723	38	353	231	0.5	MAD
June Composite Sample	66		1110	90 4.49	30 2.47	100 4.35	5 0.13	0 5.00	145 2.38	321 6.49	91 2.57	2.0 0.03	0.4 0.02		9.0	Free CO ₂ = 2 CaCO ₃ = 119 Ammonium nitrogen = 0.000 Organic nitrogen = 0.150	712	38	348	339	0.5	MAD

TABLE D-3

ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE 6

COLORADO RIVER AQUEDUCT AT LA VERNE (Station 09)
(continued)

Date and time sampled P.S.T.	Discharge Temp. in air in °F	Dissolved oxygen in ppm	%Sat	Specific conductance (microhm/cm at 25°C)	pH	Mineral constituents in parts per million												Total dissolved solids in ppm	Per- cent sol- ids in ppm	Hardness as CaCO ₃ Total ppm	Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by
						equivalents per million																	
						Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)	Boron (B)	Silica (SiO ₂)						
Water Year 1962-1963 (continued)																							
July Composite Sample				1090	8.1	87 4.34	29 2.38	101 4.39	6 0.15	0 0.00	139 2.28	307 6.39	92 2.59	1.6 0.03	0.4 0.02		8.9 CaCO ₃ = 114 Free CO ₂ = 2	702	39	337	223	0.5	MWD
August Composite Sample				1175	8.0	83 4.14	28.5 2.36	102 4.14	5 0.13	0 0.00	129 2.12	300 6.24	92 2.59	1.2 0.02	0.4 0.02		9.0 CaCO ₃ = 106 Free CO ₂ = 2	685	40	324	218		MWD
September Composite Sample				1060	8.1	79 3.94	29 2.38	97 4.22	5 0.13	0 0.00	124 2.03	295 6.14	88 2.18	0.9 0.01	0.4 0.02		9.0 CaCO ₃ = 102 Free CO ₂ = 2	665	40	317	215	0.5	MWD

TABLE D-4
ANALYSES OF SURFACE WATER

LAKEONTARIO DRAINAGE PROVINCE W

MCJAVE RIVER AT THE FORKS (Station 674)

Date and time sampled P S T	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	pH	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent sod- ium in ppm	Hardness as CaCO ₃ Total N.C. ppm	Tur- bidity in ppm	Conform- ity MgN/m	Analyzed by c		
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)							Boron (B)	Silica (SiO ₂)
Water Year 1962-63																						
12-4-62 1320	est.	70	7.6	85			71 3.79		0 0.00	126 2.06		16 0.115			0.29		98	113	10	25	62	DNR
11-5-62 1000	est.	58	8.4	81.7			62 2.70		0 0.00	127 2.08		11 0.31			0.23		61	88	0	25	23	DNR
12-3-62 1135	est.	60	8.4	83			43 1.87		0 0.00	185 3.04		25 0.771			0.10		40	111	0	25	230	DNR
1-10-63 1145	est.	48	10.0	86			38 1.65		0 0.00	120 1.76		11 0.31			0.08		50	83	0	25	6	DNR
2-6-63 1045	est.	51	10.0	89			37 1.61		0 0.00	126 2.06		8 0.23			0.02		53	71	0	25	23	DNR
3-6-63 1120	est.	50	9.8	86			32 1.39		0 0.00	111 1.82		5 0.11			0.07		47	72	0	25	700	DNR
4-5-63 0830	est.	52	10.8	94			21 0.91		0 0.00	94 1.54		7 0.20			0.03		42	63	0	25	62	DNR
5-9-63 1800	est.	61	10.4	105			24 1.04	1.4 0.04	0 0.00	109 1.84	15 0.31	7 0.20	0.5 0.01	1.2 0.60	0.06	22	135	59	0	25	62	DNR
6-5-63 1130	est.	68	10.0	109			38 1.65		0 0.00	117 1.92		9 0.25			0.11		51	60	0	25	62	DNR
7-1-63 1050	est.	70	8.0	89			46 2.00		0 0.00	138 2.26		12 0.31			0.12		54	76	0	25	23	DNR
8-5-63 1200	est.	74	8.4	97			53 2.31		0 0.00	161 2.64		11 0.31			0.15		54	98	0	5	700+	DNR
9-6-63 1200	est.	73	9.0	103			76 3.31	3.2 0.08	0 0.00	163 2.68	117 2.03	15 0.31	0.5 0.01	4.5 0.21	0.30	25	345	114	0	5	62	DNR

TABLE D-4

ANALYSES OF SURFACE WATER
LAKEONTARIO DRAINAGE PROVINCES M

MOHAVE RIVER NEAR VICTORIAVILLE (Station 67)

Date and time sampled PST	Discharge Temp in cfs in deg	Dissolved oxygen ppm	Specific Conductance (at 25°C)	Metal constituents in equivalents per million										Total dissolved solids in ppm	Percent total solids in ppm	Hardness as CaCO ₃ Total N C ppm	Tur- bid- ity NTU	Analyzed by C
				Calcium (Ca) (mg)	Sodium (Na) (mg)	Potassium (K) (mg)	Carbonate (CO ₃) (mg)	Bicarbonate (HCO ₃) (mg)	Sulfate (SO ₄) (mg)	Chloride (Cl) (mg)	Nitrate (NO ₃) (mg)	Fluoride (F) (mg)	Silica (SiO ₂) (mg)					
Water Year 1962-63																		
10-4-62 1215	15.4	70	80		45		0	182		30			0.10		41	110	0	62
					1.76		0.70	2.78		0.75								DMR
11-5-62 1435	21	64	75		20		0.70	3.02		28			1.12			116	0	62
					0.77					0.79								DMR
12-3-62 1600	24	60	83		43		0.70	3.04		25			0.10		40	111	0	62
					1.77					0.74								DMR
1-10-63 1300	30	56	84		40		0.70	2.74		26			0.07		39	136	0	62
					1.74					0.73								DMR
4-4-63 0925	35	40	68		40		0.70	3.02		23			0.08		40	130	0	62
					1.74					0.65								DMR
3-4-63 0900	32	60	74		41		0.70	2.96		26			0.10		40	133	0	62
					1.78					0.73								DMR
4-5-63 0900	26	56	91		41		0.6	2.72		25			0.08		40	132	0	62
					1.76					0.71								DMR
5-4-63 1845	24	60	91		48		0.32	2.72		28			0.12	275	43	140	0	62
					2.79					0.79								DMR
6-4-63 1600	18	66	90		40		0.00	3.16		28			0.12		42	145	0	62
					2.11					0.72								DMR
7-4-63 0930	15	72	104		45		0.70	3.22		29			0.13		39	153	0	62
					1.76					0.73								DMR
8-5-63 1100	13.5	73	103		51		0.70	3.28		31			0.15		42	152	0	62
					2.22					0.87								DMR
9-5-63 1600	14	71	84		47		0.00	3.28		30			0.12	335	39	157	0	62
					2.74					0.76								DMR

TABLE D-5
ANALYSES OF SURFACE WATER
COLORADO RIVER DRAINAGE PROVINCE X
COLORADO RIVER NEAR TOPOCK (Station 54)

[illegible]

TABLE D-5

ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE X

LAKE HAVASI, COLORADO RIVER AQUIFECT INTAKE (Station 56d)

Date and time sampled P.S.T.	Discharge Temp. in cfs	Dissolved oxygen ppm %Sat	Specific Conductance (microhm/cm at 25°C)	Mineral constituents in equivalents per million												Total dissolved solids in ppm	Per cent solids in ppm	Hardness on CaCO ₃ Total in ppm	Temp. in place in °F	Turbidity in NTU	Analyzed by	
				Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Boron (B)	Silica (SiO ₂)							Other constituents
Water Year 1962-1963																						
10-2-62	--	--	1110	83 4.71	20 2.17	106 4.61	4 0.10	2 0.07	131 2.15	106 6.36	26 2.71	1.5 0.02	0.5 0.03	--	9.8	--	704	41	331	220	0.3	MAD
11-21-62 1963	--	--	----	87 4.75	29.5 2.42	100 4.35	5 0.13	2 0.07	134 2.17	307 6.55	94 2.71	1.6 0.04	0.4 0.02	--	10.1	--	704	--	339	225	0.3	MAD
12-4-62	--	--	1130	90 4.75	20 2.17	109 4.71	5 0.13	0 0.00	119 2.17	215 6.55	96 2.71	2.2 0.04	0.1 0.02	--	9.9	Free CO ₂ = 1 ppm	732	40	348	226	0.3	MAD
1-1-63	54	--	1130	91 4.75	20 2.17	104 4.52	5 0.13	0 0.00	150 2.46	112 6.49	96 2.71	1.0 0.02	0.1 0.02	--	10.2	Free CO ₂ = 1 ppm	725	39	351	228		MAD
2-5-63	50	--	1130	92 4.75	20 2.17	104 4.52	5 0.13	0 0.00	151 2.53	109 6.45	94 2.65	2.1 0.03	0.1 0.02	--	9.8	Free CO ₂ = 1 ppm	723	39	353	227	0.2	MAD
3-5-63 0915	63	--	1120	91 4.75	20.5 2.51	100 4.35	6 0.15	0 0.00	151 2.48	110 6.45	91 2.57	2.2 0.04	0.1 0.02	--	9.0	Free CO ₂ = 1 ppm	716	38	353	229	0.8	MAD
4-2-63 0940	63	--	1103	91 4.75	29.5 2.42	102 4.38	5 0.13	0 0.00	150 2.46	107 6.39	92 2.59	2.1 0.04	0.1 0.02	--	9.2	Free CO ₂ = 1 ppm Alkalinity = 123	711	39	348	225	0.4	MAD
5-7-63	72	--	1035	91 4.75	29.0 2.38	95 4.13	5 0.13	0 0.00	146 2.36	102 6.28	90 2.51	2.2 0.03	0.1 0.02	--	8.6	Free CO ₂ = 1 ppm Alkalinity = 120	696	37	346	226		MAD
6-18-63	77	--	1085	86 4.75	29.5 2.42	96 4.28	5 0.13	0 0.00	148 2.43	293 6.69	88 2.48	1.7 0.04	0.1 0.02	--	9.3	Free CO ₂ = 2 ppm Alkalinity = 121	683	38	336	215		MAD
7-10-63	77	--	1050	81 4.64	29 2.36	92 4.00	5 0.13	0 0.00	131 2.15	289 6.01	84 2.13	1.2 0.02	0.1 0.02	--	10.1	Free CO ₂ = 1 ppm Alkalinity = 117	659	38	322	125	0.6	MAD
8-6-63	82	--	1050	78 3.79	29 2.36	94 4.13	6 0.15	0 0.00	126 2.07	289 6.01	87 2.15	1.2 0.04	0.1 0.02	--	10.7	Free CO ₂ = 4 Alkalinity = 103	658	39	341	211	0.3	MAD
9-3-63 1300	85	--	1040	78 3.79	27.5 2.26	95 4.13	5 0.13	0 0.00	127 2.08	281 5.91	86 2.13	1.0 0.04	0.1 0.02	--	10.6	Free CO ₂ = 8 Alkalinity = 104	651	40	308	204		MAD

TABLE D-5

ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE X

COLORADO RIVER BELOW PARKER DAM (Station 55)

Date and time sampled P.S.T.	Discharge Temp in °F	Dissolved oxygen ppm	Specific conductance micromhos at 25°C	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium in ppm	Hardness as CaCO ₃ Total ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by C						
				Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)							Boron (B)	Silica (SiO ₂)	Other constituents			
Water Year 1962-1963																									
5-10-63	13,500	70	9.8	1095	8.5	89 4.711	30 2.117	105 4.757	5.2 0.13	0 0.00	161 2.61	306 6.37	92 2.59	2.5 0.61	0.54 0.03	0.16	10	As = 0.00; PO ₄ = 0.00 ABS = 0.02	745	39	344	212	< 25	2.3 130	DWR
11-17-63																									
9-1-63	12,500	78	7.0	84	1031	8.4	26 2.11	98 4.726	4.4 0.11	0 0.00	146 2.40	280 5.81	86 2.13	1.5 0.02	0.60 0.03	0.16	12	PO ₄ = 0.00	670	40	317	197	< 25	< 415 < 415	DWR
1300																									

TABLE D-5

ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE X

COLORADO RIVER NEAR BLYTHE (Station 56c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in deg	Dissolved oxygen		Specific conductance at 25°C	pH	Mineral constituents in ————— equivalents per million													Total dissolved solids in ppm	Per cent total in ppm	Hardness on CaCO ₃ ppm	Turbidity in ppm	Coliform MPN/100 ml	Analyzed by					
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Boron (B)	Silica (SiO ₂)	Other constituents											
Water Year 1962-1963																														
5-16-63	10,700	77	9.0	107	1167	8.4	97 4.74	29 2.38	110 4.79	5.0 0.13	0 0.00	168 2.76	309 6.13	100 2.32	2.5 0.04	0.52 0.03	0.12 0.01	12		As = 0.00; Pb = 0.02 ABS = 0.10	755	39	360	222	25	1.3	DWR			
8-30-63																														
9-19-63	5940	78	8.6	103	1000	8.0	78 3.19	27 2.22	105 4.57	5.2 0.13	0 0.00	156 2.56	266 5.25	83 2.34	2.5 0.04	0.70 0.04	0.15 0.04	10		Pb = 0.06	650	42	306	178	50	23	DWR			
1000																														

TABLE D-5

ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE X

ALL AMERICAN CANAL NEAR PILOT INGB (Station 56a)

Date and time sampled in P.S.T.	Discharge Temp in cfs in °F	Dissolved oxygen ppm %Sat	Specific conductance at 25°C of 2.5°C (Ω)	Mineral constituents in equivalents per million										Total solids in ppm	Per Cent solids in ppm	Hardness as CaCO ₃ Total ppm	Temp. Hardness in ppm	Conform to MPN/ml	Analyzed by			
				Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)							Boron (B)	Silica (SiO ₂)	Other constituents
Water Year 1962-1963																						
5-15-63 1000	78	9.4	113	1256	100 4.99	28 2.30	129 5.61	5.2 0.13	0 0.00	171 2.80	329 6.85	117 3.30	2.0 0.03	0.60 0.03	0.14	12		365 225	25	240 23		
9-11-63 1305	85	8.0	103	1212	85 4.70	31 2.55	129 5.61	5.0 0.13	9.6 0.32	144 2.36	316 6.36	119 3.36	1.5 0.02	0.52 0.03	0.20	11		340 206	26	62 1-13		

TABLE D-5
ANALYSES OF SURFACE WATER
COLORADO RIVER DRAINAGE PROVINCE X
COLORADO RIVER AT YUMA ARIZONA (Station 56)

Date and time sampled P S T	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	Mineral constituents in parts per million												Total dis- solved solids in ppm	Per- cent sed- iment	Hardness on CaCO ₃		Tur- bidity in ppm	Coliform bacteria MPN/ml	Analyzed by C
			ppm	% Sat		Equivalents per million																		
						Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)	Boron (B)	Silica (SiO ₂)			Other constituents				
Water Year 1962-1963																								
5-15-63	1070	74	10.4	121	398.4	8.0	8.5	525	8.0	0	256	592	800	2.5	0.34	0.66	20	As = 0.03; PO ₄ = 0.04	668	25	2.3	DWR		
1100						0.20	6.99	22.74	0.20	0.00	4.20	12.34	22.56	0.04	0.05			ABS = 0.24			2.3			
9-11-63	1340	82	9.6	121	374.5	7.2	73	520	7.2	0	232	519	810	7.4	1.20	0.72	22	PO ₄ = 0.02	787	30	62	DWR		
1230						0.18	6.00	22.62	0.18	0.00	3.80	11.44	22.84	0.12	0.06				2420	59	62			

TABLE D-5

ANALYSES OF SURFACE WATER

COLORADO RIVER BELOW MORELOS DAM (Station 56a)

COLORADO RIVER BELOW MORELOS DAM (Station 56a)

Date and time observed PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Specific conductance (micromhos at 25°C)	Mineral constituents in equivalents per million													Total dissolved solids in ppm	Percent suspended in ppm	Hardness as CaCO ₃ Total in ppm	Turbidity in ppm	Conform with MFWMD	Analyzed by C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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					Calcium (Ca)	Magne- (Mg)	Sodium (Na)	Potas- (K)	Carbon- (CO ₃)	Bicar- (HCO ₃)	Sul- (SO ₄)	Chlo- (Cl)	Ni- (NO ₃)	Fluo- (F)	Boron (B)	Silico (SiO ₂)	Other constituents																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Water Year 1962-1963																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

TABLE D-5

ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE X

ALAMO RIVER AT INTERNATIONAL BOUNDARY (Station 59)

Date and time sampled P S T	Discharge Temp in °F	Dissolved oxygen ppm	Specific conductance (at 25°C)	pH	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent total acid in ppm	Hardness on CaCO ₃ Total ppm	Tur- bidity in mg/l	Calcium MPN/ml	Analyzed by ^c					
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- tro- (NO ₃)	Fluo- ride (F)							Boron (B)	Silica (SiO ₂)	Other constituents		
Water Year 1962-1963																									
11-8-62 0610	2.8	66	6.8	72.8	3808	7.6 ^a		553 23.19		0 0.00	290 4.76		692 19.51			1.06			59	797	559	<25	62	DWR	
1-8-63 1530	3.11	58	10.4	101	4476	7.7		644 28.01		0 0.00	298 4.88		848 23.91			1.10			70	604	360	<25	23	DWR	
3-12-63 1010	3.11	65	6.6	70	2870	7.4		394 17.11		0 0.00	262 4.30		460 12.97			0.72			58	628	413	45	7000 2400	DWR	
5-14-63 1530	3.03	80	2.8	35	6173	7.8		1090 43.50	13 0.33	0 0.00	366 6.00	1299 26.22	1280 36.10	7.4 0.12	1.04 0.05	2.00	20	As = 0.00; PO ₄ = 0.10 As = 0.10		63	1260	960	<25	6200 2400	DWR
7-9-63 1635	2.55	82	7.0	88	5011	7.8		896 31.28		0 0.00	346 5.68		1170 32.99			1.80			61	1240	956	<25	62	DWR	
9-11-63 1520	2.14	85	7.6	99	4065	7.8		600 26.10	8.8 0.23	0 0.00	320 5.24	831 17.31	760 21.13	6.2 0.10	1.20 0.06	1.35	25	PO ₄ = 0.10		59	889	627	<25	62	DWR

TABLE D-5
ANALYSES OF SURFACE WATER
COLORADO RIVER DRAINAGE PROVINCE X
ALAMO RIVER NEAR CALIPATRELA (Station 60)

Date of sample P S T	Discharge Temp in cfs	Dissolved oxygen in % ppm	Specific conductance in micromhos at 25 C	Mineral constituents in parts per million												Total solids in ppm	Per- cent sodium	Hardness as CaCO ₃ Total in ppm	Turbidity in ppm	Coliform bacteria per ml	Analyzed by					
				equivalents per million																						
				Calcium (Ca)	Magne- (Mg)	Sodium (Na)	Potash (K)	Carbon- (CO ₂)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Boron (B)	Silica (SiO ₂)							Other constituents				
Water Year 1962-1963																										
11-7-62	950	72	8.4	95.4	3990	7.6 ^a		518 22.53		0	222 3.64		770 21.71				0.52		34		946	764	300	620	DAR	
16-10								521 25.71		0	210 3.44		872 24.59				0.66		56		1007	435	250	500	DAR	
1-9-63	776	54	10.4	96	4470	7.7				0	211 3.16		670 18.89				0.52		56		830	657	450	2000	DAR	
3-12-63	1074	62	5.0	51	3700	7.8		468 21.23		0	237 3.88		690 15.76				0.64	12	As = 0.003 ABS = 0.22	2500	55	878	684	250	24,000	DAR
1-10-63	894	72	8.8	100	3704	8.0	180 8.38	500 21.75	13 0.33	0	215 3.52		648 10.27				0.52		55		850	674	< 25	24,000	DAR	
7--63	894	85	9.2	119	3430	8.2		485 21.10		0	210 3.52		570				0.96	0.60	PO ₄ = 0.32	2175	55	767	595	500	24,000	DAR
9-10-63	1253	84	7.0	90	3195	8.2	164 8.38	430 15.71	11 0.28	0	210 3.70		570				0.96	0.60	PO ₄ = 0.32	2175	55	767	595	500	24,000	DAR
1-550																									620	DAR

TABLE D-5

ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE X

NEW RIVER AT INTERNATIONAL BOUNDARY (Station 57)

Date and time sampled P S T	Discharge Temp in °C in °F	Dissolved oxygen ppm	Specific conductance at 25°C	pH	Mineral constituents in parts per million															Total dis- solved solids in ppm	Per- cent total solids in ppm	Hardness as CaCO ₃ ppm	Tur- bidity in ppm	Coliform MPN/ml in 100 ml	Analyzed by C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)	Boron (B)	Silice- ous (SiO ₂)	Other constituents																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Water Year 1964-1965																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

TABLE D-5
ANALYSES OF SURFACE WATER
COOK-JO LITTLE DRAINAGE DIVISION, 4
NEW RIVER NEAR WESTMORELAND (Station 58)

Date and time sampled P.S.T.	Discharge Temp in cfs in 6'	Dissolved oxygen ppm	Specific conductance (micromhos at 25°C)	Mineral constituents in parts per million										Total dissolved solids in ppm	Per- cent sodium	Hardness as CaCO ₃ Total ppm	Tur- bid- ity MPN/ml	Analyzed by					
				Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)						Boron (B)	Silica (SiO ₂)	Other constituents		
Water Year: 1962-1963																							
11-7-62	651	70	7.2	80.3	144.6	8.0 ⁶				0	232		975			0.24		62	851	604	6200	DWR	
1750						27.80				0.00	3.80		277.50									2300	
1-9-63	619	54	8.0	74	524.6	7.6				0	249		1185			1.1		65	936	734	200	21,000	DWR
0745						34.70				0.00	4.00		334.02									6200	
3-12-63	785	66	5.0	55	144.6	7.8				0	237		950			0.24		64	809	615	450	2300	DWR
1210						28.71				0.00	3.80		26.79									6200	
5-11-63	750	78	6.4	77	4329	8.0				0	249		930	1.6	0.20	0.26	0.16	40	866	662	500	240,000	DWR
1320						10.13				0.00	4.00		267.23	0.26	0.04							620,000	
7-9-63	634	85	6.0	78	1203	8.4				0	166		11.6			0.16		43	370	234	25	62	DWR
1430						7.52				0.00	2.72		3.27									62	
9-10-63	722	85	6.5	84	4292	8.2				0	234		945	1.1	0.24	1.0		62	848	656	450	2400	DWR
1650						9.46				0.00	3.80		25.65	0.16	0.04							2400	

TABLE D-5

ANALYSES OF SURFACE WATER

COQUILLO RIVER, DEWING PROVINCE, X

SALTUN SEA AT SALTUN SEA STATE PARK (Station 68a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million											Total dissolved solids in ppm	Per- cent sodium	Hardness as CaCO ₃ Total ppm	Tur- bidity in ppm	Coliform MPN/ml	Analyzed by	
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)	Silica (SiO ₂)							Other constituents
Water Year 1962-1963																						
11-7-62 1505	Sea	78	10.0	120.5	44,300	8.1		2725 423.0			190 3.12	114,500 1094.9			7.10		6250	6094	<25	6.2 13	DWR	
1-9-63 0930	Sea	58	9.6	93	44,730	8.1		110,200 111.7			190 3.12	114,450 1097.5			8.2			6600	6411	<25	2.3 23	DWR
3-12-63 1130	Sea	65	9.8	97	44,310	8.0		9800 126.3			190 3.12	114,200 1084.1			8.1			5750	5594	<25	0.6 5	DWR
5-11-63 1115	Sea	78	9.5	114	42,000	7.8		950 78.09	160 47.0		185 3.04	114,300 1032.6	5.0 0.08	2.5 0.13	8.4	2		5918	5666	<25	1.5 15	DWR
7-10-63 1115	Sea	87	10.0	133	41,560	8.5		9650 421.0			180 2.96	134,700 306.3			7.3			6010	5662	<25	50 23	DWR
9-11-63 1145	Sea	90	9.6	129	42,370	8.4		1041 85.57	166 47.25		195 3.20	114,200 1084.14	5.0 0.08	2.90 0.15	8.2	2		6257	6097	<25	23 2.3	DWR

TABLE D-5
ANALYSES OF SURFACE WATER
COLORADO RIVER DRAINAGE PROVINCE X

WHITEMAN RIVER NEAR WHITEMAN (Station 66)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Specific conductance (microhm/cm at 25°C)	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Percent sodium	Hardness as CaCO ₃ ppm	Total N.C. ppm	Total biogenicity MPN/ml	Analyzed by C
					Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Boron (B)	Silica (SiO ₂)				
Water Year 1962-1963																				
11-7-62 Est.	4	70	8.4	94.5			14		0	207		5			0.02		14	121	21	2.3 DWR
1-9-63 Est.	6	64	9.8	147			15		0	212		5			0.00		14	196	22	1.3 DWR
1-11-63 Est.	4	69	8.2	91			19		0	213		6			0.02		16	220	29	0.6 DWR
3-12-63 Est.	6	64	8.6	90	26	15	17	5.0	7.2	210	43	7	2.0	1.66	0.00		15	200	16	6.200 DWR
5-14-63 ORLO	50	70	9.0	100	27.79	1.23	0.74	0.13	0.24	344	0.89	0.20	0.03	0.06	0.00		15	204	27	46,000 DWR
7-10-63 Est.	48	68	10.2	111	50	15	18	4.8	0	226	42	4	6.0	0.66	0.00		17	187	7	62 DWR
9-11-63 Est.					2.50	1.23	0.76	0.12	0.00	3.60	0.87	0.17	0.03	0.03	0.02					23

TABLE D-5

ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE X

WHITEWATER RIVER NEAR MEXICA (Station 68b)

Date and time sampled P.S.T.	Discharge Temp in °F in °C	Dissolved oxygen ppm % Sat	Specific conductance micromhos at 25°C	Mineral constituents in parts per million										Total dissolved solids in ppm	Per- cent sod- ium	Hardness as CaCO ₃ ppm	Tur- bidity in ppm	Analyzed by C										
				Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)						Boron (B)	Silico- nate (SiO ₂)	Other constituents							
Water Year 1962-1963																												
11-7-62 1535	80 Est.	76	8.4	99.2	3821	7.9 ^{ab}				0	329 5.10		500 11.10								1.10		68	621	351	150	60	DWR
1-9-63 1000	80 Est.	60	9.2	91	3860	8.1				0	336 5.36		500 11.10			1.16							68	636	361	350	7000 > 7000	DWR
3-12-63 1600	90 Est.	68	9.0	98	3711	7.8				0	339 5.56		470 13.25			1.02							69	586	308	500	1300 6200	DWR
5-11-63 1030	90 Est.	80	9.8	121	3597	8.2	169 3.13	14 0.36		0	354 5.10	919 13.11	465 13.25	30 0.18	3.4 0.18	1.0	22	As = 0.00; Pb = 0.35 As = 0.28	66	630	340	25 240,000 240,000	DWR					
7-10-63 1300	100 Est.	82	10.0	126	3318	8.6	532 23.11	0 0.30		0	320 5.24	425 11.25	425 11.25			0.90		Pb = 0.30 As = 0.22	66	602	340	400 70,000 24,000	DWR					
9-11-63 1300	90 Est.	84	9.6	123	3012	8.5	152 7.35	12 0.31		0	317 5.20	794 16.54	385 10.85	27 0.14	0.60 0.03	1.0	20	Pb = 0.28	66	548	288	1000 2300	DWR					

TABLE D-6
ANALYSES OF SURFACE WATER
SANTA ANA DRAINAGE PROVINCE Y
SANTA ANA RIVER NEAR MEMPONE (Station 51b)

Date and time sampled PST	Discharge in cfs	Temp in °F	Oxidized oxygen ppm	% Sat	Specific conductance (at 25°C)	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Percent solids in ppm	Hardness as CaCO ₃ Total ppm	Turbidity Nephelometric Turbidity Units	Corrosion by C.P.M.	Analyzed by
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Boron (B)	Silica (SiO ₂)				
Water Year 1962-1963																					
10- 4-62 1020	27	56	9.6	91	243	7.9 ^a				0	118	5	6			0.06		92	0	25	6.2 DMR
11-14-62 1345	26	54	9.2	85.4	198	7.9 ^a				0	122	6	6			0.05		94	0	25	1.3 DMR
12- 3-62 1235	26 est	50	10.8	95	293	8.0 ^a				0	124	4	4			0.05		92	0	25	0.6 DMR
1- 9-63 1335	26 est	48	11.6	100	247	8.2 ^a				0	126	5	5			0.05		94	0	25	0.6 DMR
2- 6-63 1230	8 est	50	10.8	96	248	7.8				0	122	5	5			0.06		82	0	25	0.45 DMR
3- 7-63 1540	8 est	51	11.0	98	250	8.0				0	118	16	5	0.11	0.02	0.06		85	0	25	23 DMR
4- 4-63 1620	8 est	50	11.0	97	246	8.0				0	123	4.0	4.0			0.00		83	0	25	2.3 DMR
5-10-63 0730	8 est	50	11.6	87	258	7.8				0	127	15	5	2.5	0.04	0.06		89	0	25	130 DMR
6- 6-63 1000	22 est	54	10.8	100	264	7.6				0	132	14	6	3.1	0.05	0.06		96	0	25	240 DMR
7- 4-63 1345	15 est	58	11.0	107	259	7.8				0	128	14	8	1.7	0.03	0.05		97	0	25	2.3 DMR
8- 5-63 1330	15	64	10.6	111	260	8.4				0	142	15	5	0	0.00	0.05		103	0	25	62 DMR
9- 6-63 1300	30	64	11.0	115	263	8.5				0	129	13	5	1.0	0.01	0.08		101	0	25	13 DMR
										0	112	0.28	0.14	0.01				190	0	25	6.2 DMR

TABLE D-6

ANALYSES OF SURFACE WATER

SANTA ANA RIVER NEAR ARLINGTON

STATION 511

Date and time analyzed PST	Discharge Temp in cfs in °F	Dissolved oxygen ppm % sat	Specific Conductance at 25°C	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent solids in ppm	Hardness as CaCO ₃ Total in ppm	Tur- bid- ity in Com	Analyzed by	
				Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Flu- oride (F)						Brom- ine (Br)
Water Year 1962-1963																			
10-4-62 0845	18.5	8.0	85	1024	7.9 ^a	73 3.18	0 0.00	318 5.22	98 2.76	0 0.00	0 0.00	0 0.00	0.13	29	384	123	62 23	DHR	
11-7-62 1110	29	8.4	90.0	1104	7.7 ^a	92 4.00	0 0.00	320 5.24	98 2.76	0 0.00	0 0.00	0.10	0.8	672	31	371	109	25 23	DHR
12-3-62 1115	24	8.8	94	1030	7.7 ^a	70 2.07	70 3.05	311 5.10	94 2.65	113 2.35	0 0.00	0.10	0.7	627	29	373	118	25 6.2	DHR
1-10-63 0940	19	8.0	80	1079	7.4 ^a	31 2.56	8.9 0.23	312 5.12	94 2.65	124 2.59	0 0.00	0.13	0.7	638	29	385	129	25 700	DHR
2-7-63 1030	21	8.4	84	1022	8.1	22 1.85	5.0 0.13	262 4.30	98 2.76	113 2.36	0 0.00	0.13	0.7	634	32	347	82	25 230	DHR
3-6-63 1600	24	8.2	84	1054	7.8	24 1.96	4.7 0.12	322 5.28	99 2.79	118 2.46	0 0.00	0.15	0.7	670	32	360	96	25 62	DHR
4-4-63 1550	23	7.6	85	1040	8.2	27 2.21	3.6 0.09	321 5.26	97 2.74	113 2.36	0 0.00	0.10	0.6	616	32	360	97	25 2400	DHR
5-10-63 1000	24	9.2	94	1022	8.2	25 2.08	4.6 0.12	310 5.08	99 2.79	111 2.31	0 0.00	0.16	0.71	679	33	356	102	25 62	DHR
6-6-63 1100	23	9.0	95	1047	8.0	43 3.55	2.0 0.13	329 5.40	100 2.82	113 2.35	0 0.00	0.14	0.7	673	30	387	117	25 130	DHR
7-3-63 1300	17	8.6	104	1009	7.6	28 2.33	4.8 0.12	289 4.74	100 2.82	113 2.35	0 0.00	0.14	0.72	657	30	366	129	25 62	DHR
8-5-63 1445	18.3	9.2	108	1001	8.2	29 2.38	4.5 0.12	254 4.16	99 2.79	118 2.46	0 0.00	0.16	0.87	576	35	321	113	25 62	DHR
9-13-63 1140	18	9.0	99	1044	8.2	25 2.02	4.8 0.12	332 5.44	100 2.82	117 2.43	0 0.00	0.14	0.5	715	30	383	111	25 230	DHR

TABLE D-6
ANALYSES OF SURFACE WATER
SANTA ANA DRAINAGE PROVINCE Y
SANTA ANA RIVER NEAR NORCO (Station 51*)

Date and time sampled PST	Discharge in cfs in est.	Temp. in est.	Dissolved oxygen ppm %Sat.	Specific conductance at 25°C	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per cent solids in ppm	Hardness as CaCO ₃ Total in ppm	Turbidity in ppm	Calcium in mg/l	Analyzed by
					Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Boron (B)	Silica (SiO ₂)				
Water Year 1962-1963																				
10-4-62 0815	25 est.	68	4.4	48	1154	7.3 ^a	106 4.61		0 0.00	312 5.12	131 3.69	128 3.61	20 0.53		0.50		40	350	94	230
11-7-62 1030	30 est.	64	4.8	50	1196	7.3 ^a	105 4.57	9.1 0.23	0 0.00	310 5.08	118 2.46	127 3.61		1.1 0.06	0.32	34	759	351	97	230
12-3-62 1050	25 est.	56	5.6	53	1174	7.3 ^a	109 4.74		0 0.00	316 5.18	127 3.58	128 3.61			0.34		40	356	97	230
1-10-63 0915	25 est.	58	4.4	43	1170	7.3 ^a	109 4.74		0 0.00	311 5.10	128 3.61	127 3.58			0.46		40	352	97	230
2-7-63 0950	30 est.	59	4.4	43	1139	7.4	109 4.74		0 0.00	317 5.20	124 3.50	127 3.58			0.32		42	324	64	230
3-6-63 1700	60	4.6	46	1171	7.2		111 4.83		0 0.00	309 5.06	127 3.58	127 3.58			0.52		42	332	79	230
4-4-63 1400	26 est.	70	4.4	49	1138	7.6	113 4.92		0 0.00	295 4.84	123 3.47	127 3.58			0.68		44	319	77	230
5-10-63 1045	25 est.	67	5	54	1174	7.6	110 4.79	8.2 0.21	0 0.00	298 4.88	135 2.81	128 3.61	46 0.74	0.89 0.05	0.44	19	742	345	101	230
6-6-63 1200	25 est.	68	5.2	57	1163	7.2	109 4.74		0 0.00	316 5.18	127 3.58	127 3.58			0.39		39	368	109	230
7-3-63 1345	25 est.	80	7.2	89	1111	7.4	107 4.65		0 0.00	321 5.26	123 3.47	127 3.58			0.39		38	374	111	230
8-5-63 1530	20 est.	78	10.6	111	1156	8.2	113 4.92		0 0.00	342 5.34	15 0.31	127 3.58			0.65 0.03	16	147	103	0	230
9-13-63 1115	18 est.	76	11.0	115	1171	8.0	109 4.74	8.0 0.20	0 0.00	326 5.34	130 2.70	131 3.69	34 0.55	0.65 0.04	0.49	26	27	103	0	230

TABLE D-6

ANALYSES OF SURFACE WATER

SANTA ANA DRAINAGE PROVINCE, Y

SANTA ANA RIVER BELOW PRADO DAM (Station 51a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Specific conductance (microhms at 25°C)	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent sodium in ppm	Hardness on CaCO ₃ Total in ppm	Tur- bidity in ppm	Conform- ity MCM	Analyzed by
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)						
Water Year 1962-1963																				
10-4-62	42	66	8.0	85					0	320	120									
0720									0.00	5.24	3.38									
11-7-62	38	60	8.4	83.5					0	316	116									
0925									0.00	5.18	3.27									
12-3-62	40	56	9.2	87					0	316	111									
0945									0.00	5.18	2.31									
1-10-63	50	58	8.4	82					0	310	111									
0820									0.00	5.08	3.27									
2-7-63	42	56	8.0	76					0	320	111									
0820									0.00	5.30	3.27									
3-7-63	36	59	8.6	85					0	317	117									
0900									0.00	5.20	2.42									
4-4-63	23	58	8.0	78					0	315	115									
1340									0.00	5.16	3.24									
5-10-63	52	66	9.2	98					0	303	122									
1120									0.00	4.96	3.44									
6-6-63	44	67	9.0	97					0	319	120									
									0.00	5.24	2.50									
7-3-63	25	77	8.8	105					0	332	125									
1445									0.00	5.44	3.53									
8-5-63	20	77	9.4	112					0	329	126									
1630									0.00	5.36	2.67									
9-13-63	21	70	9.0	100					0	350	127									
1040									0.00	5.74	2.64									

TABLE D-6
ANALYSES OF SURFACE WATER
SANTA ANA DRAINAGE PROVINCE, Y
WARM CREEK NEAR COLUMBIA (Station 506)

Date and time sampled P.S.T.	Discharge Temp in °F	Dissolved oxygen ppm	Specific conductance at 25°C	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Hardness as CaCO ₃ Total in ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by						
				Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)						Boron (B)	Silica (SiO ₂)	Other constituents			
Water Year 1962-1963																								
10-2-62 0715	3	7.0	84	7.5 ^a	44 2.19	20 1.63	122 5.31	13 0.33	0	170 2.78	70 1.46	118 3.33	82 1.33	1.3 0.07	0.57	24	PO ₄ = 23 ABS = 3.0	58	191	52	25	700	DWR	
10-2-62 1155	11	9.6	118	947	7.4 ^a																			
10-2-62 1820	10	6.2	74	7.5 ^a																				
11-7-62 1220	10	7.5	90	1050	7.5 ^a	53 2.64	19 1.60	120 5.22	14 0.36	0	188 3.08	133 3.75	87 1.40	1.3 0.07	0.64	25	PO ₄ = 28 ABS = 3.1 NH ₄ = 9	55	212	58	25	23	DWR	
12-10-62 1215	66	8.6	88	849	8.6 ^a	50 2.50	18 1.44	81 3.52	13 0.33	0	209 3.42	65 1.83	78 1.26	0.9 0.05	0.34	28	ABS = 4.7 NH ₄ = 9	47	197	26	25	0.6	2.3	DWR
1-7-63 1230	15 est.	8.2	86	944	7.6 ^a	42 2.10	22 1.82	28 4.26	14 0.36	0	217 3.56	84 2.37	71 1.15	0.8 0.04	0.44	17	NH ₄ = 13; PO ₄ = 29 ABS = 5.0	52	196	18	25	23	23	DWR
2-5-63 1230	67	7.8	76	980	7.5	44 2.20	18 1.05	116 5.05	15 0.38	0	229 3.76	107 3.02	71 1.24	1.0 0.05	0.62	28	NH ₄ = 52; PO ₄ = 36 ABS = 5.0	54	184	0	25	700	50	DWR
3-7-63	69			1012	7.4	273 4.35	14 1.17	127 5.52	14 0.36	0	231 3.78	123 3.47	30 0.48	1.7 0.09	0.74	31	NH ₄ = 17; PO ₄ = 26 ABS = 4.9	53	176	0	25			DWR
4-4-63 1200	75	7.3	87	978	7.4	40 2.00	18 1.50	125 5.44	14 0.36	0	179 2.94	122 3.44	84 1.35	1.9 0.10	0.57	24	NH ₄ = 0.00 PO ₄ = 22; ABS = 2.8	58	175	28	25	23	62	DWR
5-2-63 1230	78	7.3	88	800	7.6	31 1.55	24 1.99	91 3.96	13 0.34	0	161 2.64	77 2.17	82 1.32	2.0 0.10	0.52	18	NH ₄ = 1.0 PO ₄ = 30 ABS = 2.85	51	177	45	25	23	62	DWR
6-6-63 1615	72	7.2	82	975	7.4	47 2.35	19 1.59	127 5.52	12 0.32	0	204 3.34	118 3.33	76 1.23	2.5 0.13			NH ₄ = 3.2 PO ₄ = 33; ABS = 3.4	55	197	30	25	62		DWR
7-2-63 1230	82	7.4	93	969	7.5	52 2.59	17 1.37	113 4.92	14 0.37	0	237 3.88	108 3.05	41 0.60	1.3 0.07	0.64	27	NH ₄ = 2	50	198	4	25	6.2		DWR
8-8-63 1245	74	9.7	112	915	7.5	46 2.30	17 1.36	112 4.97	14 0.36	0	203 3.32	97 2.74	71 1.15	2.0 0.10	0.56	22	NH ₄ = 6.1	53	183	17	25	7000		DWR
9-12-63 1600	Variable	6.3	79	884	7.5	41 2.05	20 1.64	110 4.79	13 0.33	0	178 2.92	110 3.10	1.60 1.03	1.60 0.06	0.64	22	PO ₄ = 25 ABS = 2.7	54	185	39	25	62	62	DWR

TABLE D-6

ANALYSES OF SURFACE WATER

SANTA ANA DRAINAGE PROVINCE Y

WASH CREEK NEAR SAN BERNARDINO (Station 50c)

Date and time sampled PST	Discharge in cfs	Temp in air	Dissolved oxygen ppm	pH	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Hardness as CaCO ₃ Total ppm	Tur- bid- ity in cpm	Analyzed by
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potash- ium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)	Bor- on (B)	Silica (SiO ₂)	Other constituents	
Water Year 1962-1963																		
10-2-62	Dry																	
1000	No flow																	
11-7-62	Dry																	
1000	No flow																	
12-3-62	Dry																	
1215	No flow																	
1-9-63	Dry																	
1430	No flow																	
2-63	Dry																	
	No flow																	
3-63	Dry																	
	No flow																	
4-63	Dry																	
	No flow																	
5-10-63	Dry																	
0900	No flow																	
6-6-63	Dry																	
0830	No flow																	
7-3-63	Dry																	
1145	No flow																	
8-5-63	Dry																	
1430	No flow																	
9-6-63	Dry																	
1500	No flow																	

TABLE D-6

ANALYSES OF SURFACE WATER

SANTA ANA DRAINAGE PROVINCE, Y.

CHINO CREEK NEAR CHINO (Station 86)

Date and time sampled PST	Discharge Temp in cts	Dissolved oxygen ppm	Specific conductance (micromhos at 25°C)	Mineral constituents in ————— parts per million —————										Total dissolved solids in ppm	Per cent sodium in ppm	Hardness as CaCO ₃ Total in ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by
				Calcium (Ca)	Magne- sum (Mg)	Sodium (Na)	Potas- sum (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fide (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)	Baron Silica (SiO ₂)					
Water Year 1962-1963																			
10- 4-62 Dry																			
0755 No flow																			
11- 7-62 Dry																			
0945 No flow																			
12- 3-62 Dry																			
0925 No flow																			
1-10-63 15 est	52	6.0	54	47	10	31	24	0	133	63	34	32	1.0	0.26	2	161	52	1500	DNR
0755			531	2.35	0.87	1.35	0.61	0.00	2.18	1.32	0.96	0.52	0.05			378	0	70000+	DNR
2- 7-63 Dry																			
0945 No flow																			
3- 7-63 Pond	59	4.6	1265	88	39	111	26	0	561	54	96	1.8	0.61	0.31	13	772	35	0	DNR
1000				4.39	3.17	4.83	0.67	0.00	9.20	1.12	2.71	0.03	0.03	0.30					
4- 4-63 5 est	68	5.0	1939	77				0	325	67						257	0	25	DNR
1240				3.35				0.00	5.32		1.89								
5- 9-63 Dry																			
1300 No flow																			
6- 6-63 Dry																			
1400 No flow																			
7- 3-63 Dry																			
1545 No flow																			
8- 5-63 .5 est	80	5.8	1302	129	43	107	18	0	407	297	69	0	1.3	0.27	26	889	31	166	DNR
				6.44	3.56	4.65	0.46	0.00	6.68	2.18	1.75	0.00	0.07			500	72	70000	6200
9-13-63 Ponded	77	4.6	642	51	15	56	20	0	271	39	41	4.0	0.5	0.26	29	432	36	187	DNR
				2.54	1.20	2.44	0.51	0.00	4.54	0.81	1.16	0.06	0.03						620

TABLE D-6

ANALYSES OF SURFACE WATER

SANTA ANA LEADSMITH TOMBICH Y

LAKE ELSINORE NORTH SHORE (Station 69)

Date and time sampled P.S.T.	Discharge Temp. in °F	Specific conductance at 25°C	Dissolved oxygen		Mineral constituents in parts per million										Total Per- cent solids in ppm	Hardness as CaCO ₃ Total N.C. ppm	Tur- bidity ppm	Analyzed by C
			ppm	% Sat	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO ₃)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)				
Water Year 1962-1963																		
11- 8-62	Dry lake																	
1515																		
1- 7-63	Dry lake																	
1600																		
2- -63	Dry lake																	
3- -63	Dry lake																	
4- -63	Dry lake																	
5-13-63	Dry lake																	
6- -63	Dry lake																	
7- 8-63	Dry lake																	
1630																		
9-17-63	Dry lake																	
1500																		

TABLE D-7

ANALYSES OF SURFACE WATER

SAN DIEGO DRAINAGE PROVINCE

SANTA MARGARITA RIVER NEAR FALLENBROOK (Station 51c)

Date and time sampled P.S.T.	Discharge Temp in °F	Dissolved oxygen	Specific conductance (microhm/cm at 25°C)	pH	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent sod- ium	Hardness as CaCO ₃		Tur- bidity MPN/ml	Analyzed by C					
					Calcium (Ca)	Magnes- ium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Nitro- rate (NO ₃)	Fluo- ride (F)			Boron (B)	Silica (SiO ₂)			Other constituents				
																					Total	Non- com			
Water Year 1962-1963																									
11-8-63	0	60	7.74	79.5	80	31	122	4.3	0	354	116	140	5.6	0.3	0.21	24	PO ₄ = <u>1.6</u>	765	39	340	50	25	13	DMR	
11-15	est.				4.29	2.51	5.31	0.11	0.00	5.05	2.42	3.95	0.09	0.04										DMR	
1-7-63	0	50	11.65	95	8.0		118		0	322	131	152			0.16			44	329	65	25	10.8		DMR	
1-10	est.						5.13		0.00	5.28		3.69												DMR	
3-11-63	0	57	12.50	82	7.8		134		0	329	152	152			0.21			46	340	70	25	23		DMR	
3-11-63	est.						5.63		0.00	5.46		4.29												DMR	
5-13-63	6	66	11.52	90	8.0	82	28	128	3.2	16	306	106	153	1.5	0.0	0.23	16	733	46	319	40	25	62	DMR	
5-17-63	est.					4.09	2.29	5.57	0.03	0.56	5.02	2.21	3.81	0.02	0.03								62	DMR	
7-6-63	6	70	11.49	105	7.4		130		0	381	143	143			0.24			45	348	36	25	240	6.2	DMR	
7-13-63	est.						5.66		0.00	6.24		4.03												DMR	
9-17-63	7	66	11.87	90	8.2	84	28	128	6.8	0	353	114	147	1.0	0.5	0.36	31	734	46	325	36	30	50	DMR	
13-63	est.					4.19	2.31	5.57	0.17	0.00	5.76	2.38	4.15	0.01	0.03								240		

SAN DIEGO DRAINAGE PROVINCE

SAN LUIS REY RIVER NEAR PALA (Station 62)

D-51

TABLE D-7
ANALYSES OF SURFACE WATER

JAN VALLEY DRAINAGE PROVINCE 2
ESCONDIDO CREEK NEAR HARMONY GROVE (Station 03)

Date and sample PST	Discharge Temp in °F	Dissolved oxygen ppm	Specific conductance at 25°C	pH	Mineral constituents in parts per million										Total solid solids in ppm	Per cent solids in ppm	Hardness as CaCO ₃ ppm	Tur- bid- N.C. ppm	Analyzed by
					Calcium (Ca)	Magne- (Mg)	Sodium (Na)	Potas- (K)	Carbon- (CO ₃)	Bicar- (HCO ₃)	Sul- (SO ₄)	Chlo- (Cl)	Ni- (NO ₃)	Fluo- (F)	Bor- (B)	Silica (SiO ₂)			
Water Year 1962-63																			
11-62 1255	2 Est.	4.4	50	7.2 ^a			253 11.00		0 0.00	2.71 4.74		34.0 4.59					57	111	230 620
1-63 0740	2 Est.	5.6	52	7.2 ^b			243 10.48		0 0.00	3.19 3.10		282 7.79			0.78		57	392	23 62
3-11-63 1305	1 Est.	5.8	59	7.4	75 3.74	4.9 4.06	259 11.27	16 0.71	0 0.00	2.44 4.70	301 6.27	235 9.45	30 0.18		0.74	24	1242	390	620 620
5-13-63 1330	1 Est.	6.0	64	7.4	83 4.74	39 3.18	204 10.61	15.6 0.70	0 0.00	2.62 4.30	298 6.70	277 7.81	3.0 0.05	0.8 0.04	0.67	12	1130	366	620 130
7-8-63 1400	2 Est.	7.0	81	7.2			255 11.09		0 0.00	1.83 3.00		296 8.33			0.69		58	396	230 230
11-17-63 1150	3 Est.	5.8	66	7.4	85 4.24	38 3.14	260 11.31	17 0.74	0 0.00	2.75 4.50	257 5.35	353 9.95	0 0.00	0.6 0.03	0.48	23	1224	369	7000 7000

TABLE D-7

ANALYSES OF SURFACE WATER

SAN DIEGO DRAINAGE PROVINCE 4

SAN DIEGUITO RIVER BELOW SAN PABUAL VALLEY (Station 4)

Date and time sampled P.S.T.	Discharge Temp in cts	Dissolved oxygen ppm	Specific conductance (micromhos at 25°C)	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium in ppm	Hardness as CaCO ₃ ppm	Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by
				Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)						
Water Year 1962-1963																			
11-8-62 Dry																			
12-4-62 No flow																			
1-8-63 Dry																			
1-30-63 No flow																			
3-6-63 Dry																			
3-13-63 Dry																			
4-30-63 No flow																			
7-4-63 Dry																			
13-63 No flow																			
7-15-63 Dry																			
12-63 No flow																			

TABLE D-7

SAN DIEGO DRAINAGE PROVINCE ..

[illegible]

TABLE D-7

ANALYSES OF SURFACE WATER

SAN DIEGO IRRIGATION DISTRICT
 FOREWATER CHECK AT MILLION GORGE ROAD (Station 45+)

Date and time sampled P.S.T.	Discharge in cfs in day	Temp in °F	Dissolved oxygen ppm	% Sat	Specific conductance (microhm/cm at 25°C)	pH	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent soli- dum	Hardness as CaCO ₃ Total N.C. ppm	Tur- bidity in ppm	Coliform b. MPN/ml	Analyzed by
							Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)						
Water Year 1962-1963																						
11-3-62	Dry																					
11-5	No flow																					
1-4-63	Dry																					
12-15	No flow																					
3-6-63	Dry																					
5-13-63	No flow																					
12-30	Dry																					
This station dropped as of 7-1-63																						

TABLE D-7

ANALYSES OF SURFACE WATER

SAN DIEGO DRAINAGE PROVINCE

SAN DIEGO RIVER NEAR MESSIAH CREEK ROAD (Station 056)

Core and time sampled PST	Discharge Temp in °F	Dissolved oxygen ppm	Specific conductance (microhm/cm at 25°C)	Mineral constituents in equivalents per million												Total dis- solved solids in ppm	Per- cent solids in ppm	Hardness as CaCO ₃ Total ppm	Turb- idity in ppm	Analyzed by	
				Calcium (Ca)	Magnes- ium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)	Bor- on (B)	Silica (SiO ₂)						Other constituents
Water Year 1962-1963																					
11-6-62 1005	6 Est.	5.0	2157	87 4.34	47 3.44	253 11.01	16 0.06	0 0.00	307 5.04	333 6.34	324 9.13	66 1.07	1.1 0.06	0.74 1.20	32	NH ₄ = 22 PO ₄ = 35 ABS = 4.0	1.75 53 409 157 25	5.0 62.1	DNR		
1-8-63 1110	1.7 b	6.0	2212			288 12.53		0 0.00	371 6.30	280 5.18	280 8.57			1.20		PO ₄ = 1.6 ABS = 5.9	62 377 73 25 2400	DNR			
3- -63 no flow																			DNR		
5-11-63 1900	5 Est.	5.8	2129	82 4.09	12 3.17	267 11.61	17 0.01	0 0.00	403 6.60	280 5.14	304 8.57	1.6 0.02	1.7 0.09	0.74 1.20	12		1193 59 376 44 7740	230	DNR		
7-7-63 1200	5 Est.	6.6	2154	77 3.54	8 4.10	261 11.35	18 0.06	0 0.00	250 5.50	317 6.00	333 9.39	6.0 0.10	1.67 0.03	0.78 1.4	14		1235 53 400 110 25 2400	430	DNR		
9-17-63 1030	3 Est.	7.0	2209	106 5.29	13 4.39	291 12.66	15 0.06	0 0.00	338 5.50	280 5.14	376 10.00	50 0.81	1.3 0.02	0.64 1.1	21	PO ₄ = 2.3 ABS = 6.4	1115 55 484 207 35 2400	1300 2400	DNR		

TABLE D-7

ANALYSES OF SURFACE WATER

SAN DIEGO DRAINAGE PROVINCE 2

SPRING VALLEY CREEK NEAR LA PRESSA (Station 656)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in equivalents per million												Total solids in ppm	Per cent sodium	Hardness as CaCO ₃ Total N.C. in ppm	Tur- bid- ity in ppm	Analyzed by		
						parts per million																		
						Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fates (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)	Boron (B)	Silica (SiO ₂)						Other constituents	
Water Year 1962-1963																								
11-3-62	3	70	4.0	113	7.1	113	72	34	17	0	415	374	504	0	0.0	0.95	4.3	10.40	50	570	230	100	230	DKR
11-5	est.					5.04	5.76	14.53	0.44	0.00	6.80	7.39	14.21	0.00	0.03									
1-3-63	"	64	5.4	54	7.4					0	424	625	625	0		0.52		66	66	440	136	75	4.5	DKR
1-3-63										0.00	7.06	7.06	17.63											
2-63	Dry No flow																							
3-11-63	3	65	6.0	70	7.1					0	386	6.32	4.00			2.5		64	64	445	123	140	770+	DKR
3-10											6.32	11.27	11.27											
3-13-63	3	70	7.4	60	7.7	113	63	413	10	0	500	404	557	1.4	1.00	6.70	27	1339	54	563	153	110	620	DKR
3-15						5.64	5.28	17.27	0.41	0.00	5.20	3.71	15.71	0.03	0.00									
3-16-63										0	400	410	540	1.2	0.70			1375	54	613	237	25	4.5-	DKR
3-16	est.	77	4.0	60	7.4	131	71	425	10	0.00	7.04	3.67	16.74	0.02	0.70									
3-17-63										0	234	821	4100	10	0.4	1.20	4	9450	53	2495	2713	25	7.00+	DMS
3-17-63	3	41			8.4	54	53	199	6.0	0	3.74	17.11	117.3	0.16	0.70									
3-17-63	est.					23.24	23.24	30.74	0.15	0.00														

TABLE D-7

ANALYSES OF SURFACE WATER

SAN DIEGO HEALTH DEPARTMENT

TIA DATA RIVER AT INTERNATIONAL BOUNDARY (A-100m 90)

Date and time sampled P.S.T.	Discharge Temp. in F	Dissolved oxygen ppm	Specific Conductance at 25°C	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per. sodium in ppm	Hardness as CaCO ₃ Total ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by C
					Calcium (Ca)	Magne- sum (Mg)	Sodium (Na)	Potas- sum (K)	Carbon- ate (CO ₃)	Bicar- bonate (HCO ₃)	Sul- fate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Fluo- ride (F)						
Water Year 1902-1903																				
11-3-02	Dry																			
11-6-02	No flow																			
1-3-03	Dry																			
0-9-03	No flow																			
3-03	Dry																			
	No flow																			
7-3-03	Dry																			
1-20	No flow																			
9-10-03	Dry																			
1-300	No flow																			

RADIOASSAYS OF SURFACE WATER

CENTRAL COASTAL DRAINAGE PROVINCE (T)

Station	Sta No	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1962-1963</u>		<u>1963</u>				
Cuyama River near Garey	44a	5- 6 9- 3	0.2 $\pm$ 0.3 Dry -no report	0.0 $\pm$ 0.2	8.4 $\pm$ 6.2	4.5 $\pm$ 6.2
Santa Ynez River at Cachuma Reservoir	44b	5- 6 9- 4	0.3 $\pm$ 0.4 0.1 $\pm$ 0.3	0.0 $\pm$ 0.3 0.0 $\pm$ 0.3	6.0 $\pm$ 6.3 9.1 $\pm$ 6.2	0.0 $\pm$ 6.2 3.7 $\pm$ 6.1
Santa Ynez River near Solvang	45a	5- 6 9- 3	0.1 $\pm$ 0.4 Dry -no report	0.0 $\pm$ 0.3	6.0 $\pm$ 6.3	0.0 $\pm$ 6.2

TABLE D-9
RADIOASSAYS OF SURFACE WATER
LOS ANGELES DRAINAGE PROVINCE (U)

Station	Sta. No	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1962-1963</u>						
Matilija Creek above Matilija Dam	45b	1963 5- 7 9- 4	0.0 + 0.3 0.1 ± 0.4	0.0 + 0.3 0.0 ± 0.3	0.0 + 6.3 6.1 ± 6.2	1.1 + 6.3 2.5 ± 6.1
Santa Clara River at Los Angeles- Ventura County Line	46	5- 8 9- 4	0.1 + 0.3 0.0 ± 0.2	0.0 + 0.3 0.2 ± 0.3	2.4 + 6.5 13.8 ± 6.1	0.0 + 6.3 6.6 ± 6.1
Santa Clara River near Santa Paula	46a	5- 7 9- 4	0.1 + 0.3 0.0 ± 0.4	0.4 + 0.4 1.0 ± 0.6	9.2 + 6.3 7.7 ± 6.2	0.0 + 6.1 8.2 ± 6.2
Piru Creek near Piru	46c	5- 7 9- 4	0.4 + 0.5 0.7 ± 0.5	0.0 + 0.4 2.8 ± 0.8	9.9 + 6.2 0.0 ± 6.3	4.4 + 6.1 0.0 ± 6.2
Sespe Creek near Fillmore	46d	5- 7 9- 4	0.2 + 0.4 0.5 ± 0.5	0.8 + 0.5 0.1 ± 0.5	2.0 + 6.1 7.5 ± 6.2	7.4 + 6.2 1.4 ± 6.1
Santa Paula Creek near Santa Paula	46e	5- 7 9- 4	0.0 + 0.4 0.0 ± 0.3	0.0 + 0.3 0.1 ± 0.3	0.0 + 6.3 5.3 ± 6.2	0.0 + 6.3 1.0 ± 6.2
Los Angeles River at Figueroa Street	47	5- 8 9- 5	0.5 + 0.4 1.2 ± 0.6	0.1 + 0.2 0.7 ± 0.5	3.2 + 6.5 15.9 ± 7.0	0.0 + 6.3 12.1 ± 6.4
Los Angeles River at Pacific Coast Highway	48	5- 8 9- 5	0.0 + 0.4 0.1 ± 0.4	0.8 + 0.6 4.5 ± 1.0	11.6 + 6.4 43.7 ± 6.7	4.7 + 6.2 52.7 ± 6.9

RADIOASSAYS OF SURFACE WATER
LOS ANGELES DRAINAGE PROVINCE (U)
(continued)

Station	Sta. No.	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1962-1963</u>		<u>1963</u>				
Rio Hondo at Whittier Narrows	49	5- 9 9- 5	0.2 + 0.4 0.4 ± 0.5	0.0 + 0.3 0.1 ± 0.4	9.2 ± 6.5 23.5 ± 6.5	0.0 ± 6.3 0.2 ± 6.1
Mission Creek at Whittier Narrows	49a	5- 9 9- 5	0.6 + 0.4 Dry -no report	0.2 ± 0.3	9.7 ± 6.3	7.9 ± 6.2
Rio Hondo above Spreading Grounds	49b	5- 9 9- 5	0.6 + 0.3 0.0 ± 0.3	0.4 + 0.3 0.0 ± 0.3	18.1 ± 6.4 44.8 ± 6.6	1.0 ± 6.2 10.4 ± 6.1
San Gabriel River at Whittier Narrows	50	5- 9 9- 5	Dry -no report Dry -no report			
San Gabriel River at Azusa Power House	50d	5- 9 9- 6	0.0 + 0.4 0.0 ± 0.2	0.0 + 0.3 0.3 ± 0.4	9.7 ± 6.3 1.7 ± 6.1	0.0 ± 6.0 0.0 ± 6.0
Ventura River near Ventura	61	5- 7 9- 4	0.4 ± 0.4 0.0 ± 0.4	0.1 ± 0.3 0.0 ± 0.4	0.0 ± 6.2 9.8 ± 6.3	0.0 ± 6.1 4.4 ± 6.2
Los Angeles Aqueduct near San Fernando Upper Van Norman Inlet	70		See Page D-62	For Radioassay		
Colorado River Aqueduct near La Verne	69		See Page D-65	For Radioassay		

TABLE D-9
RADIOASSAY OF SURFACE WATERS
LOS ANGELES DRAINAGE PROVINCE (U)
Analyses Received from the Los Angeles
Department of Water and Power

Source and sampling point	Date sampled	Micro-micro curies/liter Beta-Gamma Count*
Upper Van Norman Inlet	Oct. 1, 1962	2.9 $\pm$ 4.1
(Los Angeles Aqueduct near San Fernando Station 70)	Oct. 8, 1962	6.6 $\pm$ 2.7
	Oct. 15, 1962	4.1 $\pm$ 2.7
	Oct. 22, 1962	10.0 $\pm$ 2.9
	Oct. 29, 1962	14.7 $\pm$ 3.0
	Nov. 5, 1962	7.0 $\pm$ 2.7
	Nov. 14, 1962	9.6 $\pm$ 2.9
	Nov. 19, 1962	5.4 $\pm$ 2.8
	Nov. 26, 1962	10.0 $\pm$ 2.9
	Dec. 3, 1962	8.6 $\pm$ 2.9
	Dec. 10, 1962	6.0 $\pm$ 2.8
	Dec. 17, 1962	8.7 $\pm$ 2.9
	Dec. 26, 1962	9.3 $\pm$ 3.0
	Jan. 2, 1963	5.8 $\pm$ 3.2
	Jan. 7, 1963	7.7 $\pm$ 3.2
	Jan. 14, 1963	7.5 $\pm$ 3.3
	Jan. 21, 1963	7.5 $\pm$ 3.3
	Jan. 28, 1963	20.5 $\pm$ 3.7
	Feb. 4, 1963	11.1 $\pm$ 3.4

TABLE D-9

RADIOASSAY OF SURFACE WATERS

LOS ANGELES DRAINAGE PROVINCE (U)

Analyses Received from the Los Angeles
Department of Water and Power
(continued)

Source and sampling point	Date sampled	Micro-micro curies/liter Beta-Gamma Count*
(Los Angeles Aqueduct near San Fernando Station 70)	Feb. 11, 1963	) Aqueduct shut down 2-9-63 to 2-23-63
	Feb. 18, 1963	)
	Feb. 25, 1963	)
	Mar. 4, 1963	10.8 $\pm$ 3.4
	Mar. 11, 1963	11.5 $\pm$ 3.4
	Mar. 18, 1963	14.9 $\pm$ 3.5
	Mar. 25, 1963	16.1 $\pm$ 3.5
	Apr. 1, 1963	11.7 $\pm$ 3.4
	Apr. 8, 1963	11.0 $\pm$ 3.4
	Apr. 15, 1963	11.2 $\pm$ 3.7
	Apr. 22, 1963	13.4 $\pm$ 3.6
	Apr. 29, 1963	15.8 $\pm$ 3.5
	May 1, 1963	12.1 $\pm$ 3.4
	May 6, 1963	12.3 $\pm$ 3.5
	May 13, 1963	7.7 $\pm$ 3.4
	May 20, 1963	14.1 $\pm$ 3.4
	May 24, 1963	11.4 $\pm$ 3.4
	June 3, 1963	11.5 $\pm$ 3.4
	June 10, 1963	12.3 $\pm$ 3.4

TABLE D-9

RADIOASSAY OF SURFACE WATERS

LOS ANGELES DRAINAGE PROVINCE (U)

Analyses Received from the Los Angeles
Department of Water and Power
(continued)

Source and sampling point	Date sampled	Micro-micro curies/liter Beta-Gamma Count*
(Los Angeles Aqueduct near San Fernando Station 70)	June 17, 1963	21.8 $\pm$ 3.7
	June 24, 1963	16.4 $\pm$ 3.6
	July 1, 1963	19.9 $\pm$ 3.7
	July 8, 1963	18.0 $\pm$ 3.5
	July 15, 1963	14.3 $\pm$ 3.4
	July 22, 1963	13.9 $\pm$ 3.4
	July 29, 1963	10.8 $\pm$ 3.5
	Aug. 5, 1963	13.3 $\pm$ 3.4
	Aug. 12, 1963	14.1 $\pm$ 3.4
	Aug. 19, 1963	11.8 $\pm$ 3.5
	Aug. 26, 1963	5.1 $\pm$ 3.2
	Sept. 3, 1963	5.2 $\pm$ 3.1
	Sept. 9, 1963	7.3 $\pm$ 3.2
	Sept. 23, 1963	23.8 $\pm$ 4.7
	Sept. 30, 1963	9.1 $\pm$ 3.9

*Deviations reported at 95 percent confidence level in 1963 and 90 percent confidence level prior to 1963.

TABLE D-9

RADIOASSAY OF SURFACE WATERS

LOS ANGELES DRAINAGE PROVINCE (U)

Analyses Received from The Metropolitan
Water District of Southern California

Source and sampling point	Date sampled	Gross Alpha uuc/l.*	Gross Beta uuc/l.*
Colorado River Influent at F. E. Weymouth Softening and Filtration Plant	Mar. 1962	4.0	21.9
(Colorado River Aqueduct at La Verne, Station 69)	Apr. 1962	4.5	11.5
	May 1962	4.0	7.3
	June 1962	2.9	7.1
	July 1962	5.6	15.4
	Aug. 1962	4.5	5.0
	Sept. 1962	7.6	15.4
	Oct. 1962	3.1	15.9
	Nov. 1962	3.5	10.5
	Dec. 1962	5.9	11.4
	Jan. 1963	2.5	12.9
	Feb. 1963	2.8	34.0
	Mar. 1963	6.5	17.8
	Apr. 1963	3.7	43.3
	May 1963	4.7	21.2
	June 1963	4.6	24.1
	July 1963	3.6	10.8
	Aug. 1963	2.5	15.6

TABLE D-9

RADIOASSAY OF SURFACE WATERS

LOS ANGELES DRAINAGE PROVINCE (U)

Analyses Received from The Metropolitan
Water District of Southern California
(continued)

Source and sampling point	Date sampled	Gross Alpha uuc/l.*	Gross Beta uuc/l.*
(Colorado River Aqueduct at La Verne, Station 69)	Sept. 1963	6.4	23.2
	Oct. 1963	5.1	10.3

*Unit = micromicrocuries per liter. Unless otherwise stated, the maximum statistical deviation in counting at the 90 percent confidence level for alpha is ± 0.7 uuc/l. and for beta is ± 2.6 uuc/l.

TABLE D-10

RADIOASSAYS OF SURFACE WATER

LAHONTAN DRAINAGE PROVINCE (W)

Station	Sta No	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1962-1963</u>		<u>1963</u>				
Mojave River near Victorville	67	5- 9 9- 6	0.5 + 0.5 0.2 ± 0.4	0.0 + 0.3 0.2 ± 0.4	0.0 + 6.2 2.8 ± 6.1	0.0 + 6.2 4.8 ± 6.1
Mojave River at the Forks	67a	5- 9 9- 6	0.1 + 0.5 0.1 ± 0.4	0.0 + 0.5 0.0 ± 0.4	6.6 + 6.4 0.0 ± 6.2	0.0 + 6.2 0.0 ± 6.2

TABLE D-11
RADIOASSAYS OF SURFACE WATER
COLORADO RIVER DRAINAGE PROVINCE (X)

Station	Sta No	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1962-1963</u>						
Colorado River near Topock, Arizona	54	5-16 9-19	0.6 + 0.4 0.0 ± 0.6	0.9 + 0.5 0.4 ± 0.7	10.5 + 6.2 6.6 ± 6.2	3.5 + 6.3 11.6 ± 6.2
Colorado River below Parker Dam	55	5-16 9-19	0.7 + 0.4 0.3 ± 0.4	0.4 + 0.4 0.0 ± 0.3	5.2 + 6.4 10.5 ± 6.1	0.0 + 6.2 5.6 ± 6.0
Colorado River at Yuma, Arizona	56	5-15 9-11	0.0 + 0.3 0.1 ± 0.3	1.1 + 0.5 0.1 ± 0.3	2.4 + 6.3 5.9 ± 6.1	0.8 + 6.3 2.8 ± 6.0
All American Canal near Pilot Knob	56a	5-15 9-11	0.3 + 0.3 0.2 ± 0.4	0.0 + 0.2 0.1 ± 0.4	4.4 + 6.4 6.0 ± 6.2	0.0 + 6.3 2.2 ± 6.2
Colorado River below Morelos Dam	56b	5-15 9-11	0.0 + 0.2 0.0 ± 0.5	0.5 + 0.4 0.0 ± 0.4	0.0 + 6.3 1.6 ± 6.2	0.0 + 6.3 1.5 ± 6.2
Colorado River near Blythe	56c	5-16 9-19	0.7 + 0.4 0.0 ± 0.4	0.9 + 0.5 1.5 ± 0.6	10.8 + 6.3 7.8 ± 6.2	7.0 + 6.2 14.9 ± 6.4
Lake Havasu, Colorado River Aqueduct at Intake	56d	Reported by USGS				
New River at International Boundary	57	5-14 9-11	0.0 + 0.3 0.0 ± 0.3	0.6 + 0.4 0.5 ± 0.4	17.7 + 6.5 14.4 ± 6.5	0.0 + 6.1 0.0 ± 6.2
New River near Westmorland	58	5-14 9-10	0.0 + 0.2 0.2 ± 0.4	1.0 + 0.5 1.2 ± 0.6	3.8 + 6.4 14.9 ± 6.2	6.8 + 6.4 17.8 ± 6.3
Alamo River at International Boundary	59	5-14 9-11	0.1 + 0.2 0.0 ± 0.2	0.5 + 0.3 0.3 ± 0.3	10.8 + 6.3 13.3 ± 6.3	3.7 + 6.2 0.3 ± 6.1
Alamo River near Calipatria	60	5-14 9-10	0.3 + 0.4 0.1 ± 0.3	0.6 + 0.5 0.9 ± 0.5	16.0 + 6.4 4.6 ± 6.2	7.2 + 6.2 13.6 ± 6.3

RADIOASSAYS OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE (X)
(continued)

Station	Sta No	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1962-1963</u>		<u>1963</u>				
Whitewater River near Whitewater	68	5-14 9-11	1.2 ± 0.6 0.1 ± 0.4	0.1 ± 0.4 0.0 ± 0.4	1.6 ± 6.3 0.0 ± 6.2	5.7 ± 6.2 0.0 ± 6.2
Salton Sea at Salton Sea State Park	68a	5-14 9-11	0.0 ± 0.2 0.1 ± 0.3	0.3 ± 0.4 0.1 ± 0.2	21.7 ± 6.5 24.9 ± 6.5	0.0 ± 6.1 1.9 ± 6.1
Whitewater River near Mecca	68b	5-14 9-11	0.0 ± 0.4 0.3 ± 0.4	1.5 ± 0.7 1.4 ± 0.6	22.2 ± 6.4 8.9 ± 6.3	25.2 ± 6.5 42.6 ± 6.9

TABLE D-12
RADIOASSAYS OF SURFACE WATER

SANTA ANA DRAINAGE PROVINCE (Y)

Station	Sta No	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
Water Year 1962-1963		<u>1963</u>				
Warm Creek at Colton	50b	5-10 9-6	0.3 + 0.3 0.2 ± 0.4	0.7 + 0.4 0.1 ± 0.3	12.9 + 6.4 15.0 ± 6.3	0.0 + 6.1 10.7 ± 6.2
Warm Creek at San Bernardino	50c	5-10 9-6	Dry -no report Dry -no report			
Santa Ana River near Arlington	51	5-10 9-13	0.9 + 0.4 0.7 ± 0.6	0.4 + 0.3 0.8 ± 0.6	2.3 + 6.2 2.6 ± 6.1	0.0 + 6.2 2.0 ± 6.1
Santa Ana River below Prado Dam	51a	5-10 9-13	0.9 + 0.5 0.6 ± 0.4	0.5 + 0.4 0.4 ± 0.4	3.0 + 6.4 2.7 ± 6.1	0.0 + 6.3 2.1 ± 6.1
Santa Ana River near Mentone	51b	5-10 9-6	1.7 + 0.6 2.7 ± 0.8	0.4 + 0.5 0.3 ± 0.4	3.3 + 6.4 4.7 ± 6.2	0.0 + 6.3 0.0 ± 6.1
Santa Ana River near Norco	51e	5-10 9-13	0.7 + 0.5 1.5 ± 0.7	0.2 + 0.4 0.0 ± 0.5	9.8 + 6.2 11.6 ± 6.2	11.3 + 6.2 6.7 ± 6.1
Chino Creek near Chino	86	5-9 9-11	Dry -no report 0.0 + 0.4	0.4 ± 0.5	22.8 ± 6.4	2.3 ± 6.1
Lake Elsinore at North Shore	89	5-13 9-17	Dry -no report Dry -no report			

RADIOASSAYS OF SURFACE WATER

SAN DIEGO DRAINAGE PROVINCE (%)

Station	Sta No	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1962-1963</u>		<u>1963</u>				
Santa Margarita River near Fallbrook	51c	5-13 9-17	0.0 + 0.3 0.0 ± 0.3	0.3 ± 0.4 0.0 ± 0.4	9.4 + 6.2 5.4 ± 6.3	7.7 + 6.1 2.4 ± 6.2
San Luis Rey River near Pala	62	5-13 9-17	Dry -no report Dry -no report			
Escondido Creek near Harmony Grove	63	5-13 9-17	0.0 + 0.4 0.0 ± 0.2	1.0 + 0.5 0.1 ± 0.3	15.7 + 6.4 10.2 ± 6.2	4.3 + 6.2 5.7 ± 6.2
San Dieguito River below San Pasqual Valley	64	5-13 9-17	Dry -no report Dry -no report			
San Diego River at Old Mission Dam	65	5-13 9-17	0.3 + 0.3 0.2 ± 0.3	0.6 + 0.4 0.6 ± 0.4	8.5 + 6.2 2.1 ± 6.3	1.0 + 6.3 0.0 ± 6.2
Forester Creek at Mission Gorge Road	65a	5-13 Discontinued as of 7-1-63	Dry -no report			
Spring Valley Creek near La Pressa	65b	5-13 9-17	0.1 + 0.4 0.1 ± 0.3	1.6 + 0.7 0.4 ± 0.3	21.3 + 6.4 26.4 ± 6.5	11.7 + 6.3 44.5 ± 6.7
San Diego River near Mission Gorge Road	65c	5-13 9-17	0.3 + 0.4 0.4 ± 0.4	0.2 + 0.4 0.0 ± 0.3	9.6 + 6.3 17.2 ± 6.4	0.0 + 6.2 0.0 ± 6.1
Tia Juana River at International Boundary	66	5-13 9-16	Dry -no report Dry -no report			

TABLE D-14
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

CENTRAL COASTAL DRAINAGE PROVINCE T

Station	Sta No	Date	Constituents in parts per million																	
			Aluminum (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germanium (Ge)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)	
Cuyama River near Carey	444	May 1963	0.05	-- ^a	-- ^a	0.00	0.00	0.00	0.009	0.07	-- ^a	0.00	0.00	0.02	0.00	0.00	-- ^a	-- ^a	0.00	

TABLE D-14
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

CENTRAL COASTAL DISTRICT PROVINCE T

Station	Sta No	Date	Constituents in parts per billion																	
			Alum- inum (Al)	Beryl- lium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chro- mium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germa- nium (Ge)	Manga- nese (Mn)	Molyb- denum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)	
Santa Ynez River at Cacabum Reservoir	44b	Sept. 1963	5.7	0.57 ^b	0.07 ^b	1.4 ^b	1.4 ^b	1.4 ^b	300 ^d	4.3	5.7 ^b	0.25 ^b	1.4 ^b	7.7	2.7	1.4 ^b	0.57 ^b	4.1	5.7 ^b	

b. Results are less than the amount indicated.
d. Results are more than the amount indicated.

TABLE D-15
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

LOS ANGELES DISTRICT, PROVINCE, U.

Station	Sta No	Date	Constituents in parts per million															
			Alum. num (Al)	Beryl- ium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chro- mium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germani- um (Ge)	Molyb- denum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
Santa Clara River at L.A.-Ventura County Line	46	May 1963	0.03	-- ^a	-- ^a	0.00	0.00	0.004	0.07	-- ^a	0.00	0.16	0.00	0.00	-- ^a	-- ^a	0.00	
Santa Clara River at Santa Paula	46a	May 1963	0.05	-- ^a	-- ^a	0.00	0.00	0.004	0.02	0.10	-- ^a	0.00	0.12	0.04	Trace	-- ^a	0.00	
Los Angeles River at Figueroa Street	47	May 1963	0.05	-- ^a	-- ^a	0.00	0.00	0.00	0.01	0.4	-- ^a	0.00	0.00	0.00	0.00	-- ^a	0.00	
Los Angeles River at Pacific Coast Highway	48	May 1963	0.33	-- ^a	-- ^a	0.00	0.00	0.04	0.41	0.72	-- ^a	0.00	Trace	0.00	0.00	-- ^a	0.00	
Pio Hondo at Whittier Narrows	49	May 1963	0.05	-- ^a	-- ^a	0.00	0.00	0.008	0.02	0.03	-- ^a	0.00	0.10	0.02	0.00	-- ^a	0.00	
Mission Creek at Whittier Narrows	49a	May 1963	0.13	-- ^a	-- ^a	0.00	0.00	0.001	0.003	0.08	-- ^a	0.00	0.02	Trace	Trace	-- ^a	0.00	
Ventura River near Ventura	61	May 1963	0.05	-- ^a	-- ^a	0.00	0.00	Trace	0.01	0.05	-- ^a	0.00	0.00	0.00	Trace	-- ^a	0.00	

a. Was not analyzed for this constituent.

TABLE D-15
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

LOS ANGELES DRAINAGE PROVINCE

Station	Sta. No.	Date	Constituents in parts per billion																
			Alum. num (Al)	Beryl. num (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chro. num (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	German. num (Ge)	Mang. nese (Mn)	Molyb. denum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
Santa Clara River at L.A.-Ventura County Line	46	Sept. 1963	4.6	0.57 ^b	0.29 ^b	1.4 ^b	1.4 ^b	1.4 ^b	1.4 ^b	0.0	5.7 ^b	0.29 ^b	1.4 ^b	8.0	1.4	0.57 ^b	0.29 ^b	5.7	
Santa Clara River at Santa Paula	46a	Sept. 1963	5.7	0.57 ^b	0.29 ^b	1.4 ^b	1.4 ^b	1.4 ^b	1.4 ^b	10	5.7 ^b	0.29 ^b	1.4 ^b	23	4.9	0.57 ^b	3.4	8.3	
Los Angeles River at Figueroa Street	47	Sept. 1963	7.7	0.57 ^b	0.29 ^b	1.4 ^c	1.4 ^b	1.4 ^c	17	21	5.7 ^b	0.29 ^b	33	16	15 ^d	6.0	0.57 ^b	20	5.7 ^b
Los Angeles River at Pacific Coast Highway	48	Sept. 1963	34	0.57 ^b	0.29 ^b	1.4 ^b	1.4 ^b	1.4 ^c	1.4 ^b	63	5.7 ^b	0.29 ^b	175 ^d	0.29 ^c	25	1.4 ^b	0.57 ^b	17	5.7 ^b
Rio Hondo at Whittier Narrows	49	Sept. 1963	11	0.57 ^b	0.29 ^b	1.4 ^b	1.4 ^b	1.4 ^c	1.4 ^b	4.1	5.7 ^b	0.29 ^b	9.1	15	0.03	1.4 ^b	0.57 ^b	18	5.7 ^b
Rio Hondo above spreading grounds	49b	Sept. 1963	3.7	0.57 ^b	0.29 ^b	1.4 ^b	1.4 ^b	1.4 ^c	1.4 ^b	15	5.7 ^b	0.29 ^b	51	7.1	20 ^d	1.4 ^b	0.57 ^c	13	5.7 ^b
San Gabriel River at Azusa Powerhouse	50d	Sept. 1963	3.1	0.57 ^b	0.29 ^b	1.4 ^b	1.4 ^b	1.4 ^b	1.4 ^b	5.1	5.7 ^b	0.29 ^b	1.4 ^b	4.0	0.80	0.57 ^b	7.4	5.7 ^b	
Ventura River near Ventura	61	Sept. 1963	3.1	0.57 ^b	0.29 ^b	1.4 ^b	1.4 ^b	1.4 ^b	1.4 ^b	5.4	5.7 ^b	0.29 ^b	1.4 ^b	0.0	1.0	0.57 ^b	0.29 ^c	5.7 ^b	

b. Results are less than the amount indicated.
c. Results are approximate to the amount indicated.
d. Results are more than the amount indicated.

TABLE D-16
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

COLORADO RIVER BASIN DRILLING PROJECT - A

Station	Site No	Date	Constituents in parts per million																
			Aluminum (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germanium (Ge)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
Colorado River at Yuma, Arizona	56	May 1965	0.44	-- ^a	-- ^a	0.00	0.00	0.005	0.47	-- ^a	0.00	0.04	Trace	0.00	0.00	-- ^a	-- ^a	0.00	

a. Was not analyzed for this constituent.

TABLE D-16
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

COLORADO RIVER BASIN DRAINAGE PROVINCE, X

Station	Sta No	Date	Conc. Elements in parts per billion																
			Aluminum (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Lithium (Li)	Sodium (Na)	Zinc (Zn)	
Colorado River near Topock, Arizona	54	Sept. 1963	4.6	0.57 ^b	0.29 ^b	1.4 ^b	1.4 ^b	1.4 ^b	1.4 ^b	0.3	5.7 ^b	0.29 ^b	15	1.2	1.4 ^b	0.57 ^b	9.4	6.3	
Colorado River at Yuma, Arizona	56	Sept. 1963	5.4	0.57 ^b	0.29 ^b	1.4 ^b	1.4 ^c	1.4 ^b	1.4 ^b	4.6	5.7 ^b	0.29 ^b	20	1.3	1.4 ^b	0.57 ^b	7.7	5.7 ^b	

b. Results are less than the amount indicated.
c. Results are approximate to the amount indicated.

TABLE D-17
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

SANTA ANA JURISDICTION PROVINCE Y

			Constituents, in parts per million																
Station	Sta. No.	Date	Aluminum [Al]	Beryllium [Be]	Cadmium [Cd]	Cobalt [Co]	Chromium [Cr]	Copper [Cu]	Iron [Fe]	Gallium [Ga]	Germanium [Ge]	Manganese [Mn]	Molybdenum [Mo]	Nickel [Ni]	Lead [Pb]	Titanium [Ti]	Vanadium [V]	Zinc [Zn]	
Warm Creek at Colton	50b	May 1963	0.140	-- ^a	0.00	0.00	0.04	0.04	0.3	-- ^a	0.00	0.06	0.01	0.06	0.10	-- ^a	-- ^a	0.00	
Santa Ana River near Arlington	51	May 1963	1.0	-- ^a	0.00	0.00	0.005	0.004	0.8	-- ^a	0.00	0.06	Trace	0.00	0.00	-- ^a	-- ^a	0.00	
Santa Ana River below Prado Dam	51 ^a	May 1963	1.9	-- ^a	0.00	0.00	0.006	0.006	2.0	-- ^a	0.00	0.10	0.01	0.00	Trace	-- ^a	-- ^a	0.00	
Santa Ana River near Norco	51e	May 1963	0.0	-- ^a	0.00	0.00	0.002	0.007	0.9	-- ^a	0.00	0.3	0.01	Trace	Trace	-- ^a	-- ^a	0.00	

TABLE D-17
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1963-1964

SANTA ANA DIVISION, FRIEDLAND

		Constituents in parts per billion														
Station	Date	Alum. num. (μ)	Beryllium (μ)	Cadmium (μ)	Cobalt (μ)	Chromium (μ)	Copper (μ)	Iron (Fe)	Gallium (μ)	Germanium (μ)	Manganese (μ)	Nickel (μ)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
Warm Creek at Colton	Sept. 1963	5.1	0.57 ^b	0.4 ^b	1.4 ^b	1.4 ^b	1.4 ^b	1.3	5.7 ^b	0.2 ^b	8.3	10 ^d	0.68	0.57 ^b	7.7	5.7 ^b
Santa Ana River near Arlington	Sept. 1963	3.1	0.57 ^b	0.4 ^b	1.4 ^b	1.4 ^b	1.4 ^b	3.7	5.7 ^b	0.2 ^b	1.4 ^b	0.63	1.4 ^b	0.57 ^b	10	5.7 ^b
Santa Ana River below Prado Dam	Sept. 1963	4.0	0.57 ^b	0.2 ^b	1.4 ^b	1.4 ^b	1.4 ^b	9.7	5.7 ^b	0.2 ^b	1.4 ^b	0.77	1.4 ^b	0.57 ^b	10	5.7 ^b
Santa Ana River near Montrose	Sept. 1963	3.7	0.57 ^b	0.2 ^b	1.4 ^b	1.4 ^b	1.4 ^b	10	5.7 ^b	0.2 ^b	1.4 ^b	0.29 ^c	1.4 ^b	0.57 ^b	2.4	5.7 ^b
Santa Ana River near Torco	Sept. 1963	0.3	0.57 ^b	0.4 ^b	1.4 ^b	1.4 ^b	1.4 ^b	8.9	5.7 ^b	0.2 ^b	1.4 ^b	1.5	1.4 ^b	0.57 ^b	12	5.7 ^b

b. Results are less than the amount indicated.
c. Results are approximate to the amount indicated.
d. Results are more than the amount indicated.

TABLE D-18
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

SAN DIEGO DRAINAGE PROVINCE

Station	Sta No	Date	Constituents in parts per million																
			Aluminum (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germanium (Ge)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
Escondido Creek near Harmony Grove	63	May 1963	1.1	-- ^a	-- ^a	0.00	0.00	0.00	0.02	3.9	-- ^a	0.00	0.1	0.03	0.01	0.00	-- ^a	-- ^a	0.00

^a. Was not analyzed for this constituent.

TABLE D-18
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

SAN DIEGO DOMINAGE PROVINCE 1

Station	Site No.	Date	Constituents in parts per billion															
			Aluminum (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germanium (Ge)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)
Escondido Creek near Harmony Grove	63	Sept. 1963	5.1	0.57 ^b	0.24 ^b	1.4 ^b	1.4 ^b	1.4 ^b	34	5.7 ^b	0.29 ^b	91	10	19	1.4 ^b	0.57 ^b	0.29 ^c	5.7 ^b
San Diego River near Mission Gorge Road	65 ^c	Sept. 1963	11	0.57 ^b	0.29 ^b	1.4 ^b	1.4 ^b	1.4 ^b	16	5.7 ^b	0.29 ^b	100 ^d	7.1	11	1.4 ^b	0.57 ^b	13	5.7 ^b

b. Results are less than the amount indicated.
c. Results are approximate to the amount indicated.
d. Results are more than the amount indicated.

APPENDIX E

GROUND WATER QUALITY DATA

TABLE OF CONTENTS

APPENDIX E

<u>Table No.</u>		<u>Page</u>
	<u>Mineral Analyses of Ground Water</u>	
E- 1	Central Coastal Drainage Province (T)	E- 1
E- 2	Los Angeles Drainage Province (U)	E- 6
E- 3	Lahontan Drainage Province (W)	E-14
E- 4	Colorado River Basin Drainage Province (X)	E-17
E- 5	Santa Ana Drainage Province (Y)	E-20
E- 6	San Diego Drainage Province (Z)	E-25
	<u>Radioassay of Ground Water</u>	
E- 7	Los Angeles Drainage Province (U)	E-28
E- 8	Lahontan Drainage Province (W)	E-29
E- 9	Colorado River Basin Drainage Province (X)	E-30
E-10	Santa Ana Drainage Province (Y)	E-31

TABLE E-1

MINERAL ANALYSES OF GROUND WATER 1963
CENTRAL COASTAL DRAINAGE PROVINCE (T)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos of 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million								
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO ₃	Bicarbonate HCO ₃	Sulfate SO ₄	Chloride Cl	Nitrate NO ₃	Fluoride F	Boron B	Silica SiO ₂	TDS Evap 105°C Evap 105°C Computed CaCO ₃	
Date sampled																	
PASO ROBLES HYDRO SURVEY UNIT																	
T0940																	
SALINAS HYDRO UNIT																	
T0900																	
24S/12F-17L 2 W 9-23-63	74	7.3	1462	101 5.04 31	63 5.18 42	140 6.09 57	5 0.13 1	0	320 5.24 32	469 9.76 59	47 1.33 8	5.5 0.09 1	0.6	0.46	50	1075	511
24S/15E-17E 1 W 9-24-63	66	7.8	1444	59 2.59 14	100 8.22 44	180 7.83 42	4 0.10 1	0	525 8.60 46	294 6.12 32	145 4.09 22	4.0 0.06	0.5	1.35	40	1020	541
25S/12E-16N 1 W 9-23-63	68	7.6	814	27 1.85 21	40 3.29 18	80 3.48 40	3 0.08 1	0	303 4.97 57	76 1.58 18	68 1.92 22	15. 0.24 3	0.7	0.35	47	480	257
26S/14E-25N 1 W 9-26-63	72	7.6	479	41 2.05 43	10 0.82 17	42 1.83 38	4 0.10 2	0	176 2.88 61	24 0.50 11	43 1.21 25	10. 0.16 3	0.5	0.06	40	300	144
26S/16E-31B 1 W 9-26-63	74	7.9	1634	34 1.70 10	21 1.73 10	310 13.48 79	2 0.05	0	339 5.56 33	354 7.37 44	107 3.02 18	52. 0.84 5	1.2	2.00	32	1060	172
27S/12E-24R 1 W 9-27-63	--	7.4	786	104 5.24 62	17 1.40 17	40 1.74 21	3 0.08 1	0	212 5.11 61	48 1.00 12	69 1.95 23	19. 0.31 4	0.5	0.06	60	520	322
																	515

TABLE E-1
MINERAL ANALYSES OF GROUND WATER 1963
CENTRAL COASTAL DRAINAGE PROVINCE (T)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					parts per million equivalents per percent reactance value					Mineral constituents in parts per million				
				Calcium Co	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO ₃	Bicar- bonate HCO ₃	Sulfate SO ₄	Chlor- ide Cl	Ni- trate NO ₃	Fluo- ride F	Boron B	Sili- ca SiO ₂	I.D.S. Evap 180°C Evap 105°C Computed CaCO ₃		
SANTA MARIA HYDRO SUBUNIT				SANTA MARIA-CUYAMA HYDRO UNIT														
T1240				T1200														
9N/22W-17G 1 S 10-14-63	64	8.3	1140	120 5.99 41	71 5.84 40	2.61 18	60 1	0.08 1	3 1	4 4.93 34	301 8.33 57	400 0.90 6	22.5 0.35 2	0.2	0.24	19	920 879	
9N/33W-9A 1 S 7-18-63	--	6.9	602	13 0.65 12	12 0.99 18	86 3.74 68	3 0.08 1	0 0	56 0.92 17	8 0.17 3	139 3.92 73	24.5 0.39 7	0.2	0.06	55	390 82 368		
9N/22W-12R 1 S 7-18-63	64	7.5	1103	98 4.89 38	63 5.18 40	62 2.70 21	2 0.05	0	298 4.88 38	333 6.93 54	28 0.79 6	16.5 0.26 2	0.6	0.18	32	800 782 504		
9N/34W-9E 1 S 7-17-63	68	7.0	745	42 2.10 29	24 1.97 27	72 3.13 43	3 0.08 1	0	98 1.61 23	97 2.02 28	116 3.27 46	14.5 0.23 3	0.4	0.08	57	475 474 204		
10N/24W-6N 1 S 7-18-63	61	7.7	1802	189 9.43 43	102 8.39 39	98 3.83 18	4 0.10	0	320 5.24 24	609 12.68 58	76 2.14 10	106.5 1.71 8	--	0.22	39	1470 1371 892		
10N/34W-19H 1 S 7-18-63	--	7.4	1449	138 6.89 41	70 5.76 35	90 3.91 23	4 0.10 1	0	276 4.52 27	456 9.49 57	83 2.34 14	22.5 0.35 2	0.7	0.25	29	1080 1029 633		
10N/35W-5J 1 S 7-19-63	62	7.2	1414	145 7.24 43	70 5.76 35	82 3.57 21	4 0.10 1	0	254 4.16 25	481 10.01 61	70 1.97 12	24.5 0.39 2	0.7	0.20	28	1100 1030 651		
10N/35W-7F 1 S 7-19-63	64	7.5	1988	236 11.78 48	103 8.47 34	100 4.35 18	4 0.10	0	305 5.00 20	777 16.18 66	120 3.38 14	6.1 0.10 2	0.7	0.20	33	1610 1530 1013		
10N/35W-21C 1 S 7-19-63	63	7.5	1684	158 7.88 41	69 5.67 30	126 5.48 29	4 0.10 1	0	354 5.80 30	423 8.81 46	138 3.89 20	42.5 0.68 4	0.4	0.22	38	1200 1173 678		

TABLE E-1

MINERAL ANALYSES OF GROUND WATER 1963
CENTRAL COASTAL DRAINAGE PROVINCE (T)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in							parts per million equivalents per percent					Mineral constituents in parts per million				
				Calcium	Magnesium	Sodium	Potassium	Carbonate	Bicarbonate	Sulfate	Chloride	Nitrate	Fluoride	Barium	Silica	Total hardness as CaCO ₃				
Date sampled				Ca	Mg	Na	K	CO ₃	HCO ₃	SO ₄	Cl	NO ₃	F	B	SiO ₂	I.D.S. Evap 180°C as CaCO ₃ Computed				
SANTA MARIA HYDRO SUBUNIT T12A0																				
SANTA MARIA-CUYAMA HYDRO UNIT T1200																				
(CONTINUED)																				
11N/34W-29P 2 S 10-14-63	64	7.8	1040	83 4.14 33	5.18 4.2	70 3.04 24	0.05	2	0	207 3.39 27	293 6.10 49	66 1.86 15	0.2	0.13	30	844 776	466			
11N/35W-18M 1 S 10-14-63	--	8.2	1220	143 7.14 47	52 4.28 28	85 3.70 24	4	0	0	209 3.43 22	517 10.76 69	48 1.35 9	0.1	0.21	26	1034 978	571			
11N/35W-28B 1 S 10-14-63	62	8.1	1020	127 6.34 52	38 3.13 25	63 2.74 22	3	0	0	218 3.57 29	370 7.70 62	37 1.04 8	0.4	0.19	24	840 778	474			
11N/35W-33F 1 S 7-19-63	60	7.0	1969	253 12.62 51	90 7.40 30	110 4.78 19	5	0	0	510 8.36 34	662 13.78 55	93 2.62 11	0.7	0.28	36	1585 1507	1002			
11N/36W-13R 1 S 7-18-63	--	7.5	1279	138 6.89 45	55 4.52 30	84 3.65 24	4	0	0	256 4.20 28	456 9.49 64	42 1.18 8	0.4	0.20	39	985 947	571			

TABLE E-1
MINERAL ANALYSES OF GROUND WATER 1963
CENTRAL COASTAL DRAINAGE PROVINCE (T)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million							Mineral constituents in parts per million								
				Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO ₃	Bicar- bonate HCO ₃	Sulfate SO ₄	Chlor- ide Cl	Ni- trate NO ₃	Fluo- ride F	Boron B	Silic- a SiO ₂	Iron Fe	Total hardness as CaCO ₃		
CUYAMA VALLEY HYDRO SUBUNIT				SANTA MARIA-CUYAMA HYDRO UNIT														T1200	
T12C0				T1200															
7N/24W-13C 2 S 4-25-63	59	8.2	1740	232 11.58 48	107 8.80 36	87 3.78 16	4 0.10	0	177 2.90 12	988 20.57 86	14 0.39 2	2.5 0.04	1.3	0.07	8	1608	1020		
9N/24W-19F 1 S 4-25-63	61	8.2	1725	238 11.88 50	102 8.39 35	83 3.61 15	4 0.10	0	131 2.15 9	1004 20.90 88	18 0.51 2	8.7 0.14 1	1.6	0.08	17	1603	1014		
10N/25W-20H 1 S 5-28-63	62	8.0	1610	237 11.83 50	100 8.22 35	80 3.48 15	4 0.10	0	162 2.66 11	998 20.78 87	14 0.39 2	7.4 0.12 1	0.9	0.10	15	1563	1003		
10N/25W-21G 1 S 4-25-63	--	7.9	1930	350 17.47 51	143 11.76 34	115 5.00 15	5 0.13	0	262 4.29 13	1352 28.15 83	23 0.65 2	44. 0.71 2	0.7	0.09	17	2288	1463		
10N/25W-22E 1 S 4-25-63	62	8.2	1850	269 13.42 51	111 9.13 35	80 3.48 13	4 0.10	0	174 2.85 11	1074 22.36 86	16 0.45 2	22. 0.35 1	0.8	0.07	16	1764	1128		
10N/25W-23E 1 S 4-25-63	71	8.2	1920	228 11.38 44	82 6.74 26	170 7.39 29	5 0.13	0	128 2.10 8	932 19.40 77	131 3.69 15	8.7 0.14 1	0.6	0.39	22	1709	907		
10N/26W-4R 1 S 4-25-63	--	8.1	1700	224 11.18 48	90 7.40 32	107 4.65 20	4 0.10	0	134 2.20 10	956 19.90 86	30 0.85 4	5.0 0.08	0.7	0.14	22	1590	930		
10N/26W-14C 2 S 4-25-63	63	7.9	1650	238 11.88 49	100 8.22 34	91 3.96 16	4 0.10	0	159 2.61 11	1020 21.24 87	20 0.56 2	5.6 0.09 2	0.8	0.08	18	1642	1006		
10N/26W-14C 4 S 4-25-63	62	8.0	1705	259 12.92 53	94 7.73 32	82 3.57 15	4 0.10	0	153 2.51 10	1003 20.88 87	18 0.51 2	11. 0.18 1	0.9	0.05	15	1682	1033		
																	1562		

TABLE E-1

MINERAL ANALYSES OF GROUND WATER 1963
CENTRAL COASTAL DRAINAGE PROVINCE (T)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million								
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO ₃	Bicarbonate HCO ₃	Sulfate SO ₄	Chloride Cl	Nitrate NO ₃	Fluoride F	Boron B	Silica SiO ₂	Total dissolved solids as CaCO ₃	
10N/26W-23P 1 S 5-28-63	68	8.0	1950	311	110	100	4	0	149	1163	60	16.	0.4	0.06	18	2004	1229
				15.52	9.05	4.35	0.10	2.44	24.21	1.69	0.26						
				53	31	15		9	85	6	1						1856
		</															

TABLE E-2
MINERAL ANALYSES OF GROUND WATER 1963
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Temp. when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million							Mineral constituents in parts per million						
				Calcium	Magne- sium	Sodium	Potas- sium	Carbon- ate	Bicar- bonate	Sulfate	Chlo- ride	Ni- trate	Fluo- ride	Boron	Sili- co	TDS	Total hardness as CaCO ₃
Date sampled				Co	Mg	Na	K	CO ₃	HCO ₃	SO ₄	Cl	NO ₃	F	B	SiO ₂	Computed	
SANTA CLARA-CALLEGUAS HYDRO UNIT U0300																	
OXNARD PLAIN HYDRO SUBUNIT U03A0																	
OXNARD HYDRO SUBAREA U03A1																	
1N/21W-30A 2 S 7-24-63	70	7.7	1064	93 4.64 40	30 2.47 21	100 4.35 37	6 0.15 1	0	325 5.33 46	253 5.27 45	37 1.04 9	1.0 0.02	0.4	0.74	44	710 725	
1N/21W-31A 1 S 6-18-63	--	8.0	1100	120 5.99 47	34 2.80 22	89 3.87 30	4 0.10 1	0	268 4.39 35	341 7.10 57	36 1.02 8	1.2 0.02	0.4	0.65	22	852 440	
1N/22W-15B 3 S 12-26-63	--	8.1	1210	108 5.39 37	60 4.93 34	96 4.17 29	4 0.10 1	0	260 4.26 29	434 9.04 61	48 1.35 9	3.6 0.06	0.6	0.73	27	986 910	
1N/22W-18E 1 S 6-13-63	--	7.6	1180	126 6.29 46	39 3.21 23	94 4.09 30	5 0.13 1	0	247 4.05 30	403 8.39 61	44 1.24 9	0	0.6	0.75	27	896 861	
1N/22W-19H 1 S 4-26-63	64	7.5	13200	826 41.22 23	450 37.01 20	2380 103.48 57	23 0.59	0	128 2.10 1	875 18.22 10	5691 160.49 89	8.7 0.14	0.4	0.96	11	11218 10329	
1N/22W-20E 1 S 8-16-63	68	7.0	21000	1303 65.02 26	508 41.78 17	3300 143.48 57	30 0.77	0	169 2.77 1	1178 24.53 10	7757 218.75 89	0	0.1	1.24	18	16580 14178	
1N/22W-20R 1 S 5- 8-63	66	7.6	9680	1450 72.36 47	542 44.57 29	865 37.61 24	21 0.54	0	159 2.61 2	793 16.51 11	4751 133.98 88	0	0.4	0.70	21	9673 8522	
1N/22W-21L 1 S 5- 7-63	65	7.7	4780	563 28.09 50	189 15.54 28	274 11.91 21	8 0.20	0	183 3.00 5	403 8.39 15	1569 44.25 80	0.6 0.01	0.7	0.46	18	3703 3116	

TABLE E-2
MINERAL ANALYSES OF GROUND WATER 1963
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million					Mineral constituents in parts per million				
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO ₃	Bicarbonate HCO ₃	Sulfate SO ₄	Chloride Cl	Nitrate NO ₃	Fluoride F	Boron B	Silica SiO ₂	TDS Evaporated Capillary Computed	Total hardness at CaCO ₃	
SANTA CLARA-CALLEGUAS HYDRO UNIT U0300																		
OXNARD PLAIN HYDRO SUBUNIT U03A0																		
OXNARD HYDRO SUBAREA U03A1 (CONTINUED)																		
1N/22W-21L 2 S 4-26-63	64	11.7	3710	228 11.38 36	0	448 19.48 61	43 1.10 3	75 2.50 9	0	170 3.54 13	748 21.09 77	6.8 0.11	0.4	0.23	9	1877 1728	569	
1N/22W-22C 1 S 6-18-63	--	8.0	1470	138 6.89 46	46 3.78 25	100 4.35 29	4 0.10 1	0	238 3.90 26	384 7.99 54	106 2.99 20	0.	0.6	0.73	25	984 921	534	
1N/22W-22R 5 S 2-26-63	--	7.8	1135	124 6.19 47	38 3.13 24	86 3.74 28	5 0.13 1	0	336 5.51 42	283 5.89 45	53 1.49 11	12. 0.19 1	0.5	0.20	29	810 796	466	
1N/22W-26D 4 S 2-26-63	--	8.2	1265	--	--	--	--	0	256 4.20	--	57 1.61	--	--	--	--	--	515	

TABLE E-2

MINERAL ANALYSES OF GROUND WATER 1963
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million					Mineral constituents in parts per million				
				Calcium Co	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO ₃	Bicar- bonate HCO ₃	Sulfate SO ₄	Chlo- ride Cl	Ni- trate NO ₃	Fluo- ride F	Boron B	Sili- co SiO ₂	IDS Evap 180°C Evap 105°C Computed	Total hardness as CaCO ₃	
SANTA CLARA-CALLEGUAS HYDRO UNIT U0300																		
SANTA PAULA HYDRO SUBUNIT U03B0																		
SANTA PAULA HYDRO SUBAREA U03B1																		
3N/21W-9R 3 S 1-16-63	--	7.6	1148	129 6.44 50	31 2.55 20	86 3.74 29	3 0.08 1	0	295 4.84 38	329 6.85 54	38 1.07 8	0.5 0.01	0.7	0.42 37	820 800	450		
3N/21W-16K 1 S 9-29-63	--	7.7	1530	190 9.48 50	52 4.28 22	120 5.22 27	4 0.10 1	0	288 4.72 24	593 12.35 64	82 2.31 12	3.5 0.06	0.8	0.80 25	1310 1213	689		
3N/22W-36H 1 S 8-1-63	--	7.5	1800	267 13.32 62	22 1.81 8	145 6.30 29	3 0.08	0	360 5.90 28	614 12.78 61	74 2.09 10	15. 0.24 1	0.4	0.78 27	1428 1345	757		

TABLE E-2
MINERAL ANALYSES OF GROUND WATER 1963
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million							Total hardness as CaCO ₃		
				Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO ₃	Bicar- bonate HCO ₃	Sulfate SO ₄	Chlo- ride Cl	Ni- trate NO ₃	Fluo- ride F	Boron B		Sili- ca SiO ₂	IO ₃ - Exop IO ₃ - Exop IO ₃ - as Compued
UPPER SANTA CLARA R HYDRO SUBUNITU03E0																	
EASTERN HYDRO SUBAREA U03E1																	
SANTA CLARA-CALLEGUAS HYDRO UNIT U0300																	
4N/16W-28A 1 S 1-11-63	--	7.7	1635	198 9.88 50	74 6.09 31	85 3.70 19	3 0.08	0	442 7.24 37	459 9.56 49	74 2.09 11	45. 0.73 4	0.9	0.10	26	1244 1182	799
4N/16W-33L 1 S 8-13-63	76	7.9	1260	77 3.84 28	41 3.37 24	153 6.65 48	4 0.10 1	0	220 3.61 26	471 9.81 69	23 0.65 5	3.3 0.05	0.2	0.20	16	920 897	361
4N/17W-4A 1 S 1-11-63	--	8.2	686	75 3.74 50	13 1.07 14	58 2.52 34	3 0.08 1	0	250 4.10 56	125 2.60 36	20 0.56 8	0.6 0.01	0.3	.00	22	446 440	241
5N/17W-34P 1 S 1-11-63	--	7.5	327	34 1.70 52	6 0.49 15	24 1.04 32	1 0.03 1	0	134 2.20 70	10 0.21 7	18 0.51 16	14. 0.23 7	0.7	.00	42	222 216	110
6N/16W-34B 1 S 8-27-63	--	7.5	1475	127 6.34 39	47 3.87 24	135 5.87 36	4 0.10 1	0	368 6.03 37	310 6.45 40	133 3.75 23	0.5 0.01	0.2	1.20	25	1010 964	511
8N/20W-19M 1 S 7-5-63	--	7.8	833	56 2.79 32	9 0.74 8	120 5.22 59	2 0.05 1	0	261 4.28 48	199 4.14 47	13 0.37 4	2.6 0.04	1.3	2.00	25	555 558	177

TABLE E-2
MINERAL ANALYSES OF GROUND WATER 1963
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million equivalents per percent reactance value				Mineral constituents in parts per million					
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO ₃	Bicarbonate HCO ₃	Sulfate SO ₄	Chloride Cl	Nitrate NO ₃	Fluoride F	Boron B	Silica SiO ₂	Total hardness as CaCO ₃	
SANTA CLARA-CALLEGUAS HYDRO UNIT U0300																	
CALLEGUAS-CONEJO HYDRO SUBUNIT U03F0																	
EAST LAS POSAS HYDRO SUBAREA U03F2																	
3N/19W-29E 3 S 7-10-63	--	7.3	314	26 1.30 42	7 0.58 19 U03F4	27 1.17 38	1 0.03 1	0	117 1.92 64	2 0.04 1	22 0.62 21	26. 0.42 14	0.4	0.08	73	230 242	94
CONEJO VALLEY SUBAREA																	
1N/20W-15R 3 S 8-1-63	68	7.3	780	67 3.34 41	30 2.47 30 U03F8	54 2.35 29	0	0	296 4.85 61	70 1.46 18	50 1.41 18	16. 0.26 3	0.2	0.07	26	472 459	291
THOUSAND SUBAREA																	
1N/19W-2L 1 S 10-2-63	--	7.6	1916	182 9.08 38	104 8.55 36	145 6.30 26	6 0.15 1	0	571 9.36 39	600 12.49 52	66 1.86 8	11. 0.18 1	0.6	0.29	55	1532 1451	882
1N/19W-14C 3 S 10-24-63	72	7.2	1686	120 5.99 29	110 9.05 44	124 5.39 26	5 0.13 1	0	361 5.92 29	518 10.78 53	134 3.78 18	1.7 0.03	0.5	0.15	53	1210 1244	753

TABLE E-2
MINERAL ANALYSES OF GROUND WATER 1963
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in					parts per million equivalents per million reactance value					Mineral constituents in parts per million				
				Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO ₃	Bicar- bonate HCO ₃	Sulfate SO ₄	Chlo- ride Cl	Ni- trate NO ₃	Fluo- ride F	Baron B	Sili- ca SiO ₂	TDS Extrapolated as Computed	Total Hardness as CaCO ₃	
COASTAL PL OF LA CO HYDRO SUBUNITU05A0																		
WEST COAST HYDRO SUBAREA U05A2																		
L A SAN GABRIEL RIVER HYDRO UNIT U0500																		
35/13W-29G 3 S 10-23-63	68	7.8	1180	98 4.89 41	30 2.47 21	102 4.43 37	5 0.13 1	0	198 3.25 27	111 2.31 19	227 6.40 54	0	0.2	0.30	20	740 691	368	
35/13W-31M 1 S 10-24-63	70	8.1	510	47 2.35 44	11 0.90 17	45 1.96 37	3 0.08 2	0	226 3.70 71	43 0.90 17	21 0.59 11	0	0.2	0.18	23	292 304	163	
35/14W-22R 2 S 10-28-63	69	7.6	1400	111 5.54 37	56 4.61 31	107 4.65 31	6 0.15 1	0	253 4.15 28	47 0.98 7	340 9.59 65	0	0.2	0.35	16	1044 808	508	
35/14W-25K 4 S 10-25-63	70	7.8	710	70 3.49 48	17 1.40 19	53 2.30 32	3 0.08 1	0	226 3.70 51	59 1.23 17	81 2.28 32	0	0.2	0.14	22	434 416	245	
35/14W-27C 1 S 10-28-63	68	7.7	1040	96 4.79 44	27 2.22 20	86 3.74 34	5 0.13 1	0	221 3.62 34	56 1.17 11	208 5.87 55	0	0.2	0.18	19	738 606	351	
35/14W-30H 2 S 10-23-63	72	8.4	1040	74 3.69 35	33 2.71 26	90 3.91 37	6 0.15 1	15 0.50 5	202 3.31 32	38 0.79 8	201 5.67 55	0	0.2	0.20	22	658 579	320	
4S/14W- 9Q 1 S 10-28-63	73	7.7	880	33 1.65 18	12 0.99 11	148 6.44 70	5 0.13 1	0	290 4.75 53	2 0.04 47	149 4.20 47	0	0.2	0.55	24	500 516	132	
4S/14W-16L 2 S 10-28-63	74	9.3	760	40 2.00 25	12 0.99 13	110 4.78 61	5 0.13 2	4 0.13 2	281 4.61 59	1 0.02 39	106 2.99 39	0	0.2	0.30	29	452 446	150	

TABLE E-2

MINERAL ANALYSES OF GROUND WATER 1963
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million					Mineral constituents in parts per million				
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO ₃	Bicarbonate HCO ₃	Sulfate SO ₄	Chloride Cl	Nitrate NO ₃	Fluoride F	Boron B	Silica SiO ₂	TDS Evap 180°C Evap 105°C Computed CaCO ₃		
COASTAL PL OF LA CO HYDRO SUBUNITU05A0 CENTRAL HYDRO SUBAREA U05A5																		
2S/13W-100 5 S 8-14-63	64	7.9	730	50 2.50 32	37 3.04 39	50 2.17 28	4 0.10 1	0	256 4.20 53	109 2.27 29	50 1.41 18	3.7 0.06 1	0.2	0.20	19	454 277		
2S/13W-12C 1 S 3-1-63	70	8.0	610	67 3.34 51	12 0.99 15	50 2.17 33	3 0.08 1	0	235 3.85 60	84 1.75 27	28 0.79 12	0	0.6	0.18	22	384 217		
2S/13W-28H 1 S 10-11-63	--	7.7	600	69 3.44 50	16 1.32 19	45 1.96 29	4 0.10 1	0	221 3.62 54	93 1.94 29	36 1.02 15	7.3 0.12 2	0.2	0.05	19	436 238		
3S/13W-20H 3 S 11-20-63	72	8.1	470	34 1.70 32	19 1.56 29	46 2.00 37	4 0.10 2	0	232 3.80 71	46 0.96 18	22 0.62 12	0	0.2	0.15	19	314 163		
4S/12W-10A 2 S 11-21-63	--	8.3	390	42 2.10 48	11 0.90 21	30 1.30 30	3 0.08 2	2 0.07 2	211 3.46 80	22 0.46 11	11 0.31 7	0	0.4	0.18	11	236 150		
4S/12W-10G 1 S 11-21-63	69	8.3	450	48 2.40 53	6 0.49 11	36 1.57 35	3 0.08 2	1 0.03 1	211 3.46 75	36 0.75 16	13 0.37 8	0	0.2	0.18	13	242 145		
																260		

TABLE E-2
MINERAL ANALYSES OF GROUND WATER 1963
LOS ANGELES DRAINAGE PROVINCE (U)

State well number		Temp when Sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million						Mineral constituents in parts per million					
Date sampled	Calcium Ca				Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO ₃	Bicar- bonate HCO ₃	Sulfate SO ₄	Chlo- ride Cl	Ni- trate NO ₃	Fluo- ride F	Boron B	Sili- co SiO ₂	IDS Evap 180°C Evap 105°C Computed CaCO ₃
L A SAN GABRIEL RIVER HYDRO UNIT U0500																
SAN GABRIEL VALLEY HYDRO SUBUNIT U0500																
MAIN SAN GABRIEL HYDRO SUBAREA U0501																
1S/10W-7A 6 S 7-26-63	67	7.7	750	106 5.29 71	17 1.40 19	16 0.70 9	4 0.10 1	0	214 3.51 47	42 0.87 12	101 2.85 38	11. 0.18 2	0.2	0.05	12	514 335
1S/10W-19N 1 S 10-10-63	--	7.6	940	106 5.29 51	24 1.97 19	70 3.04 29	6 0.15 1	0	226 3.70 36	163 3.39 33	78 2.20 21	59. 0.95 9	0.1	0.05	11	726 363
1S/11W-10F 1 S 10-11-63	62	7.5	370	51 2.54 61	11 0.90 22	15 0.65 16	2 0.05 1	0	198 3.25 79	19 0.40 10	8 0.23 6	14. 0.23 6	0.6	0.08	17	240 172
1S/11W-14M 1 S 10-11-63	--	7.8	580	85 4.24 67	18 1.48 23	12 0.52 8	4 0.10 2	0	210 3.44 56	62 1.29 21	31 0.87 14	33. 0.53 9	0.1	0.03	11	418 286
1S/11W-26K 1 S 10-11-63	66	7.7	540	77 3.84 65	10 0.82 14	26 1.13 19	4 0.10 2	0	216 3.54 60	65 1.35 23	28 0.79 13	16. 0.26 4	0.2	0.00	16	374 233
1S/11W-33N 7 S 6-25-63	--	7.6	855	111 5.54 59	30 2.47 26	29 1.26 13	5 0.13 1	0	253 4.15 44	171 3.56 38	53 1.49 16	11. 0.18 2	0.2	0.11	13	632 401
1S/11W-33P 1 S 10-11-63	--	7.9	1050	157 7.83 64	22 1.81 15	55 2.39 20	6 0.15 1	0	254 4.16 34	260 5.41 45	71 2.00 16	35. 0.56 5	0.2	0.03	14	814 482
																745

TABLE E-3
MINERAL ANALYSES OF GROUND WATER 1963
LAHONTAN DRAINAGE PROVINCE (W)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million equivalents per percent reactance value				Mineral constituents in parts per million						
				Calcium mg Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO ₃	Bicar- bonate HCO ₃	Sulfate SO ₄	Chlo- ride Cl	Ni- trate NO ₃	Fluo- ride F	Baron B	Sili- ca SiO ₂	I.D.S. Exp. 105°C as Computed CaCO ₃	Total hardness as CaCO ₃	
ANTELOPE HYDRO SUBUNIT																		
LANCASTER VALLEY HYDRO SUBAREA																		
W26AO																		
W26A5																		
ANTELOPE HYDRO UNIT																		
W2600																		
7N/11W-23N 1 S 7-19-63	--	8.1	240	24 1.20 50	4 0.33 14	19 0.83 34	0.05 2	2	0	120 1.97 85	12 0.25 11	3 0.08 3	0.2 1	0.06	20	142 145	77	
7N/12W-34E 1 S 7-30-63	73	8.1	270	22 1.10 40	0 1.65 59	38 1.65 59	0.03 1	1	0	128 2.10 79	19 0.40 15	5 0.14 5	0.2 1	0.08	21	158 171	55	
7N/13W-7J 1 S 5-27-63	--	7.5	700	66 3.29 43	26 2.14 28	51 2.22 29	2 0.05 1	2	0	311 5.10 67	36 0.75 10	44 1.24 16	29 0.47 6	0.1	0.20	21	434 428	272
8N/11W-21R 1 S 7-30-63	--	8.9	380	4 0.20 5	1 0.08 2	89 3.87 93	0	12 0.40 10	177 2.90 75	15 0.31 8	10 0.28 7	0	1.6	0.78	16	242 236	14	
8N/12W-9B 1 S 7-31-63	--	8.2	280	15 0.75 27	1 0.08 3	43 1.87 68	1 0.03 1	1	0	101 1.66 61	22 0.46 17	11 0.31 11	17 0.27 10	0.2	0.08	17	168 177	42
8N/13W-27P 2 S 6-4-63	72	7.8	630	38 1.90 29	19 1.56 24	71 3.09 47	1 0.03 3	1	0	207 3.39 52	50 1.04 16	67 1.89 29	11 0.18 3	0.4	0.63	26	412 386	173
8N/14W-11G 1 S 7-31-63	74	8.1	400	34 1.70 43	5 0.41 10	41 1.78 45	2 0.05 1	2	0	171 2.80 71	31 0.65 16	13 0.37 9	9 0.15 4	0.1	0.53	27	238 247	106
9N/13W-23E 1 S 6-6-63	--	8.1	390	34 1.70 43	5 0.41 10	42 1.83 46	2 0.05 1	2	0	145 2.38 62	48 1.00 26	14 0.39 10	4 0.08 2	0.2	0.10	17	250 238	106

TABLE E-3
MINERAL ANALYSES OF GROUND WATER 1963
LAHONTAN DRAINAGE PROVINCE (W)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in					parts per million equivalents per percent			million per million reactance value			Mineral constituents in parts per million				
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO ₃	Bicarbonate HCO ₃	Sulfate SO ₄	Chloride Cl	Nitrate NO ₃	Fluoride F	Boron B	Silica SiO ₂	TOTAL Evaporite Calculated CaCO ₃	Total Hardness as CaCO ₃		
MIDDLE MOJAVE HYDRO SUBUNIT																			
				W28C0					W2800										
MOJAVE HYDRO UNIT																			
9N/ 2W- 1F 1 S	65	7.7	670	45	16	78	2	0	199	103	48	4.2	0.6	0.27	22	404	179		
7-18-63				2.25	1.32	3.39	0.05		3.26	2.14	1.35	0.07				417			
				32	19	48	1		48	31	20	1							

TABLE E-3
MINERAL ANALYSES OF GROUND WATER 1963
LAHONTAN DRAINAGE PROVINCE (W)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million									
				Calcium Co	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO ₃	Bicar- bonate HCO ₃	Sulfate SO ₄	Chlo- ride Cl	Ni- trate NO ₃	Fluo- ride F	Baron B	Sili- co SiO ₂	TDS Evap 105°C as computed CaCO ₃		
MOJAVE HYDRO UNIT																		
W28E0																		
LOWER MOJAVE HYDRO SUBUNIT																		
9N/ 1E- 1M 1 S 7-17-63	--	7.7	488	41 2.05	--	--	--	0	198 3.25	--	28 0.79	--	--	--	20	103		
9N/ 1E-15N 2 S 7-16-63	--	8.1	940	73 3.64 35	15 1.23 12	125 5.44 53	2 0.05	0	271 4.44 42	171 3.56 34	87 2.45 23	3.9 0.06 1	0.4	0.41	25	608 244		
9N/ 2E- 8N 2 S 7-16-63	--	7.8	392	33 1.65 41	6 0.49 12	43 1.87 46	1 0.03 1	0	171 2.80 69	30 0.62 15	21 0.59 15	2.5 0.04 1	0.6	0.14	27	235 107		
10N/ 2E-31R 1 S 7-17-63	--	7.9	458	29 1.45	--	--	--	0	170 2.79	--	30 0.85	--	--	--	25	73		
9N/ 1W- 4G 1 S 7-18-63	--	8.2	600	54 2.69 41	9 0.74 11	68 2.96 46	4 0.10 2	0	207 3.39 54	85 1.77 28	37 1.04 17	3.1 0.05 1	0.4	0.09	21	360 172		
9N/ 1W-10D 2 S 7-17-63	65	7.8	740	64 3.19 42	15 1.23 16	70 3.04 40	3 0.08 1	0	227 3.72 49	112 2.33 31	51 1.44 19	3.0 0.05 1	0.7	0.15	26	484 221		
9N/ 1W-13H 2 S 7-16-63	63	7.7	758	51 2.54 33	14 1.15 15	91 3.96 51	3 0.08 1	0	212 3.47 46	108 2.25 30	64 1.80 24	2.4 0.04 1	0.7	0.38	22	494 185		
10N/ 1W-33E 1 S 7-18-63	--	8.1	820	63 3.14 35	13 1.07 12	110 4.78 53	3 0.08 1	0	284 4.65 52	134 2.79 31	52 1.47 16	0.9 0.01	0.4	0.18	18	538 211		
																534		

TABLE E-4
MINERAL ANALYSES OF GROUND WATER 1963
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million equivalents per million reactance value				Mineral constituents in parts per million					
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO ₃	Bicarbonate HCO ₃	Sulfate SO ₄	Chloride Cl	Nitrate NO ₃	Fluoride F	Barium Ba	Silica SiO ₂	IDS Evap 180°C Evap 105°C Computed	Total hardness as CaCO ₃
TWENTYNINE PALMS HYDRO SUBUNIT X09A0 DALE HYDRO UNIT X0900																	
1N/ 9E-31A 1 S 5-28-63	--	8.2	388	--	--	--	--	--	104 1.70	--	--	21 0.59	--	--	--	--	78

TABLE E-4

MINERAL ANALYSES OF GROUND WATER 1963
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million								
				Calcium Co	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO ₃	Bicar- bonate HCO ₃	Sulfate SO ₄	Chlor- ide Cl	Ni- trate NO ₃	Fluo- ride F	Boron B	Sili- ca SiO ₂	TDS Evap 180°C Evap 105°C as CaCO ₃	
Date sampled																	
COACHELLA HYDRO SUBUNIT INDIO HYDRO SUBAREA																	
X1900																	
X1900																	
X1907																	
5S/ 7E-16K 1 S 5- 1-63	--	8.2	300	40 2.00 63	1 0.08 3	23 1.00 31	4 0.10 3	0	149 2.44 78	20 0.42 14	9 0.25 8	0.	0.6	0.05	12	190 183	104
5S/ 7E-22K 1 S 4-30-63	--	7.9	930	129 6.44 61	23 1.89 18	50 2.17 20	5 0.13 1	0	181 2.97 28	242 5.04 48	84 2.37 23	7.8 0.13 1	0.4	.00	17	772 647	417
5S/ 7E-33C 1 S 5- 1-63	72	8.1	560	64 3.19 57	5 0.41 7	44 1.91 34	5 0.13 2	0	126 2.07 37	97 2.02 36	41 1.16 21	22. 0.35 6	0.4	0.02	14	382 354	180
5S/ 8E-31D 1 S 4-30-63	--	8.2	780	100 4.99 63	7 0.58 7	50 2.17 28	6 0.15 2	0	143 2.34 30	155 3.23 42	67 1.89 25	14. 0.23 3	0.4	0.07	14	474 484	279
5S/ 8E-33N 1 S 4-30-63	--	8.2	580	31 1.55 26	2 0.16 3	97 4.22 70	5 0.13 2	0	140 2.29 40	128 2.66 47	27 0.76 13	0.	4.0	0.34	13	368 376	86
6S/ 8E- 7P 1 S 4-30-63	--	8.2	525	65 3.24 62	3 0.25 5	37 1.61 31	4 0.10 2	0	119 1.95 40	64 1.33 27	53 1.49 31	4.3 0.07 1	0.4	0.05	14	332 303	175
6S/ 8E-10A 4 S 4-30-63	75	8.2	470	24 1.20 25	0 0 0	80 3.48 74	2 0.05 1	0	94 1.54 35	82 1.71 38	43 1.21 27	0.	4.0	0.29	12	296 293	60
6S/ 8E-27H 1 S 4-30-63	--	8.6	227	13 0.65 28	0 0 0	37 1.61 70	2 0.05 2	2 0.07 3	83 1.36 60	26 0.54 24	10 0.28 12	0.	0.8	0.07	10	150 142	33

TABLE E-4
MINERAL ANALYSES OF GROUND WATER 1963
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million equivalents per percent reactance value				Mineral constituents in parts per million					
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO ₃	Bicarbonate HCO ₃	Sulfate SO ₄	Chloride Cl	Nitrate NO ₃	Fluoride F	Boron B	Silica SiO ₂	IO ₃ Exp 180°C Exp 105°C Computed CaCO ₃	Total hardness as CaCO ₃
COACHELLA HYDRO SUBUNIT INDIO HYDRO SUBAREA																	
WHITewater HYDRO UNIT																	
X1900				X1900 (CONTINUED)													
X1907				X1900													
6S/ 9E-30C 1 S 4-30-63	--	8.3	275	6 0.30 11	1 0.08 3	52 2.26 85	1 0.03 1	2 0.07 3	82 1.34 53	43 0.90 36	7 0.20 8	0.	2.0	0.07	9	160 163	19
7S/ 8E-22M 1 S 4-30-63	--	7.1	2000	150 7.49 40	6 0.49 3	250 10.87 57	4 0.10 1	0 0.30 2	18 0.30 2	344 7.16 38	399 11.25 60	8.7 0.14 1	0.2	0.00	8	1284 1179	399
7S/ 9E-16K 1 S 4-30-63	--	8.6	725	4 0.20 3	2 0.16 2	160 6.96 95	1 0.03	6 0.20 3	180 2.95 42	110 2.29 33	54 1.52 22	0.	5.0	0.29	10	442 441	18

TABLE E-5
MINERAL ANALYSES OF GROUND WATER 1963
SANTA ANA DRAINAGE PROVINCE (Y)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million									
				Calcium Co	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO ₃	Bicar- bonate HCO ₃	Sulfate SO ₄	Chlo- ride Cl	Ni- trate NO ₃	Fluo- ride F	Baron B	Sili- co SiO ₂	IDS Exp 180°C Exp 105°C Computed	Total hardness as CaCO ₃	
LOWER SANTA ANA RIV HYDRO SUBUNITY01A0 EAST COASTAL PLAIN HYDRO SUBAREA Y01A1																		
SANTA ANA RIVER HYDRO UNIT Y0100																		
5S/11W-21M 3 S 3-19-63	--	8.2	363	25 1.25	2 0.16	53 2.30	3 0.08	--	161 2.64	32 0.67	12 0.34	--	--	0.06	--	210	71	
5S/11W-21N 2 S 3-19-63	--	7.6	598	--	--	--	--	--	193 3.16	--	18 0.51	--	--	--	--	--	--	
5S/11W-25R 2 S 3-13-63	--	7.6	726	91 4.54	18 1.48	35 1.52	4 0.10	--	294 4.82	89 1.85	33 0.93	--	--	0.01	--	420	301	
5S/11W-28H 2 S 10- 3-63	--	8.4	368	9 0.45 13	1 0.08 2	70 3.04 84	1 0.03 1	5 0.17 5	174 2.85 78	12 0.25 7	14 0.39 11	0. --	0.7	0.08	13	244 211	27	
5S/11W-28K 1 S 3-15-63	--	8.2	521	--	--	--	--	--	306 5.02	--	19 0.54	--	--	--	--	--	--	
5S/11W-29C 1 S 3-15-63	--	8.5	339	--	--	--	--	8 0.27	156 2.56	--	17 0.48	--	--	--	--	--	--	
5S/11W-33H 1 S 3-15-63	--	8.4	351	--	--	--	--	7 0.23	188 3.08	--	13 0.37	--	--	--	--	--	--	

TABLE E-5
MINERAL ANALYSES OF GROUND WATER 1963
SANTA ANA DRAINAGE PROVINCE (Y)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					parts per million equivalents per percent reactance value					Mineral constituents in parts per million				
				Calcium Mg	Sodium Na	Potassium K	Carbonate CO ₃	Bicarbonate HCO ₃	Sulfate SO ₄	Chloride Cl	Nitrate NO ₃	Fluoride F	Boron B	Silica SiO ₂	Total TDS Evap 105°C as Computed CaCO ₃			
LOWER SANTA ANA RIV HYDRO SUBUNITY010A0 EAST COASTAL PLAIN HYDRO SUBAREA Y01A1 (CONTINUED)																		
SANTA ANA RIVER HYDRO UNIT Y0100																		
5S/11W-34F 3 S 3-15-63	--	8.4	624	--	--	--	0.27	380 6.23	--	18 0.51	--	--	--	--	--	--	--	--
5S/11W-36B 2 S 3-13-63	--	7.8	535	--	--	--	0	218 3.57	--	25 0.71	--	--	--	--	--	--	--	--
5S/11W-36P 1 S 3-4-63	--	7.7	1666	199 9.93 63	34 2.80 18	64 2.78 18	5 0.13 1	221 3.62 23	77 1.60 10	365 10.29 66	5.08 0.08 1	--	0.05	--	1021 858	--	637	
5S/12W-12C 1 S 3-19-63	--	8.6	313	--	--	--	0.27	140 2.29	--	13 0.37	--	--	--	--	--	--	--	--
6S/10W-5C 1 S 6-28-63	67	7.8	600	52 2.59 43	19 1.56 26	43 1.87 31	2 0.05 1	235 3.85 62	77 1.60 26	28 0.79 13	0	0.2	0.07	17	408 354	--	208	
6S/10W-6B 2 S 3-6-63	--	7.9	627	--	--	--	--	218 3.57	--	57 1.61	--	--	--	--	--	--	--	--
6S/10W-6H 1 S 9-11-63	--	7.5	813	83 4.14 53	19 1.56 20	47 2.04 26	3 0.08 1	209 3.43 43	31 0.65 8	135 3.81 48	7.0 0.11 1	0.2	0.04	15	464 443	--	285	

TABLE E-5
MINERAL ANALYSES OF GROUND WATER 1963
SANTA ANA DRAINAGE PROVINCE (Y)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million						Mineral constituents in parts per million								
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO ₃	Bicarbonate HCO ₃	Sulfate SO ₄	Chloride Cl	Nitrate NO ₃	Fluoride F	Boron B	Silica SiO ₂	TDS Evap 180°C Evap 105°C as CaCO ₃		
LOWER SANTA ANA RIV HYDRO SUBUNITYO1A0 EAST COASTAL PLAIN HYDRO SUBAREA Y01A1 (CONTINUED)																		
SANTA ANA RIVER HYDRO UNIT Y0100																		
6S/10W-7J 4 S 4-2-63	68	7.4	4700	460 22.95 48	62 5.10 11	450 19.57 41	4 0.10	0	143 2.34 5	0	1596 45.01 95	0.	0.2	0.28	14	4260 2657		
6S/11W-1N 2 S 3-4-63	--	8.1	508	--	--	--	--	--	300 4.92	--	16 0.45	--	--	--	--	--		
6S/11W-3R 2 S 3-15-63	--	8.0	1783	--	--	--	--	--	331 5.43	--	406 11.45	--	--	--	--	--		
SANTA ANA NARROWS HYDRO SUBAREA Y01A3																		
3S/8W-25J 1 S 8-22-63	--	7.9	1585	166 8.28 47	45 3.70 21	130 5.65 32	6 0.15 1	0	378 6.20 35	367 7.64 43	141 3.98 22	1.0 0.02	0.7	0.35	23	1130 599		
3S/8W-33K 1 S 8-22-63	--	7.5	1558	142 7.09 40	65 5.35 30	120 5.22 29	3 0.08	0	349 5.72 32	431 8.97 50	108 3.05 17	4.5 0.07	0.7	0.15	22	1150 622		
3S/9W-33H 1 S 8-22-63	--	7.6	901	76 3.79 40	19 1.56 17	91 3.96 42	3 0.08	0	261 4.28 46	119 2.48 27	86 2.43 26	1.0 0.02	0.7	0.17	20	575 268		
3S/9W-33K 1 S 8-21-63	64	7.7	1088	114 5.69 49	23 1.89 16	88 3.83 33	5 0.13 1	0	203 3.33 29	257 5.35 47	94 2.65 23	8.5 0.14 1	0.6	0.15	24	730 379		
3S/9W-350 1 S 8-22-63	--	7.7	1206	117 5.84 45	29 2.38 18	104 4.52 35	6 0.15 1	0	205 3.36 26	318 6.62 51	100 2.82 22	6.4 0.10 1	0.7	0.15	20	830 411		
																802		

TABLE E-5
MINERAL ANALYSES OF GROUND WATER 1963
SANTA ANA DRAINAGE PROVINCE (Y)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million								
				parts per million equivalents per percent reactance value				parts per million								
Date sampled				Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO ₃	Bicer- bonate HCO ₃	Sulfate SO ₄	Chla- ride Cl	Ni- trate NO ₃	Fluo- ride F	Boran B	Sili- ca SiO ₂	Total Hardness as CaCO ₃
MIDDLE SANTA ANA RIV HYDR SUBUNITY01B0 CHINO HYDRO SUBAREA Y01B1																
SANTA ANA RIVER HYDRO UNIT Y0100																
1S/ 6W-29R 1 S 3-22-63	--	7.5	430	53 2.64 62	6 0.49 11	25 1.09 26	2 0.05 1	0 3.10 74	189 3.10 74	6 0.12 3	23 0.65 16	20.3 0.32 8	0.3	.00	30	269 258
2S/ 7W-10M 1 S 3-13-63	--	7.4	923	111 5.54 58	32 2.63 27	31 1.35 14	2 0.05 1	0 5.00 53	305 5.00 53	41 0.85 9	78 2.20 23	91.2 1.47 15	0.3	0.03	--	409 540 536
2S/ 7W-15A 1 S 10-23-63	--	8.2	337	42 2.10 56	8 0.66 18	22 0.96 25	2 0.05 1	12 0.40 11	178 2.92 77	12 0.25 7	6 0.17 4	3.5 0.06 2	0.2	0.04	--	209 195
2S/ 7W-21L 1 S 3-13-63	--	7.9	799	100 4.99 57	26 2.14 25	35 1.52 17	2 0.05 1	0 5.24 61	320 5.24 61	61 1.27 15	33 0.93 11	71.2 1.15 13	0.3	0.02	--	357 522 486
2S/ 7W-22K 1 S 3-13-63	--	7.7	1089	136 6.79 56	38 3.13 26	47 2.04 17	3 0.08 1	0 8.60 71	525 8.60 71	42 0.87 7	61 1.72 14	55.2 0.89 7	0.3	0.02	--	496 682 641
2S/ 7W-23E 1 S 3-13-63	--	8.0	803	103 5.14 58	27 2.22 25	32 1.39 16	2 0.05 1	0 5.72 66	349 5.72 66	41 0.85 10	41 1.16 13	54.4 0.88 10	0.3	0.02	--	368 504 472
2S/ 7W-27A 1 S 3-13-63	--	7.4	998	112 5.59 51	33 2.71 25	59 2.57 24	2 0.05	0 8.36 75	510 8.36 75	44 0.92 8	47 1.33 12	38.0 0.61 5	0.3	0.04	--	415 582 586

TABLE E-5
MINERAL ANALYSES OF GROUND WATER 1963
SANTA ANA DRAINAGE PROVINCE (Y)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million													
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO ₃	Bicarbonate HCO ₃	Sulfate SO ₄	Chloride Cl	Nitrate NO ₃	Fluoride F	Boron B	Silica SiO ₂	TDS Evap 100°C Computed	Total hardness as CaCO ₃					
UPPER SANTA ANA HYDRO SUBUNIT																						
BUNKER HILL HYDRO SUBAREA																						
YO1E0				YO1E2															YO100			
SANTA ANA RIVER HYDRO UNIT																						
1S/ 3W-9E 2 S 3-25-63	--	8.0	348	41 2.05 57	7 0.58 16	20 0.87 24	3 0.08 2	0	163 2.67 78	8 0.17 5	18 0.51 15	4.0 0.06 2	0.3	0.32	30	215 212	132					
1S/ 3W-16A 1 S 4- 3-63	--	7.5	287	32 1.60 54	6 0.49 16	19 0.83 28	2 0.05 2	0	139 2.28 77	21 0.44 15	7 0.20 7	4.0 0.06 2	0.4	0.02	28	180 188	105					
1S/ 3W-17C 3 S 3-25-63	--	8.0	351	43 2.15 59	10 0.82 23	14 0.61 17	2 0.05 1	0	132 2.16 58	33 0.69 19	9 0.25 7	37.0 0.60 16	0.5	0.00	23	220 236	149					
1S/ 4W-13F 2 S 5-31-63	--	7.9	412	53 2.64 62	9 0.74 17	19 0.83 19	3 0.08 2	0	188 3.08 73	24 0.50 12	16 0.45 11	11.0 0.18 4	0.4	0.62	20	260 248	169					
1S/ 4W-13G 2 S 5-31-63	--	8.1	410	54 2.69 63	9 0.74 17	17 0.74 17	3 0.08 2	0	190 3.11 75	23 0.48 12	15 0.42 10	10.0 0.16 4	0.4	0.36	20	270 245	172					
1S/ 4W-13L 1 S 5-31-63	--	7.8	360	45 2.25 60	9 0.74 20	17 0.74 20	2 0.05 1	0	156 2.56 70	28 0.58 16	7 0.20 5	20.0 0.32 9	0.5	0.03	18	230 223	150					
1N/ 4W-29F 1 S 3-22-63	--	7.7	1140	171 8.53 65	38 3.13 24	32 1.39 11	5 0.13 1	0	303 4.97 37	346 7.20 54	24 0.68 5	26.0 0.42 3	0.6	1.00	24	900 817	583					

TABLE E-6
MINERAL ANALYSES OF GROUND WATER 1963
SAN DIEGO DRAINAGE PROVINCE (Z)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in					parts per million equivalents per percent			Mineral constituents in parts per million						
				Calcium Co	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO ₃	Bicar- bonate HCO ₃	Sulfate SO ₄	Chlo- ride Cl	Ni- trate NO ₃	Fluo- ride F	Boron B	Sili- ca SiO ₂	I.O.S. Exp 180°C Exp 105°C Computed CaCO ₃	Total hardness as CaCO ₃	
BONSALL HYDRO SUBUNIT MISSION HYDRO SUBAREA																		
Z03A0																		
Z03A1																		
SAN LUIS REY HYDRO UNIT																		
Z0300																		
11S/ 4W- 5K 1 S 9-27-63	--	7.4	3175	308 15.37 47	123 10.12 31	160 6.96 21	10 0.26 1	0	239 3.92 12	134 2.79 9	880 24.82 79	5.0 0.08	0.5	0.10	26	2080 1764	1276	
11S/ 4W- 8K 1 S 9-26-63	--	7.3	1499	160 7.98 52	19 1.56 10	128 5.57 37	4 0.10 1	0	249 4.08 27	123 2.56 17	280 7.90 53	30. 0.48 3	0.4	0.52	36	1080 903	477	
11S/ 4W- 8N 2 S 10-24-63	--	7.7	2360	210 10.48 41	23 1.89 7	295 12.83 51	3 0.08	0	322 5.28 21	173 3.60 14	575 16.22 65	0. 0.	0.2	0.30	21	1582 1459	619	
11S/ 4W-18L 4 S 9-27-63	--	7.4	1280	108 5.39 39	43 3.54 26	105 4.57 33	6 0.15 1	0	293 4.80 36	157 3.27 24	188 5.30 40	0.5 0.01	0.5	0.11	30	900 782	447	
11S/ 5W-13L 1 S 1- 8-63	--	7.5	3156	287 14.32 43	105 8.64 26	240 10.44 31	9 0.23 1	0	325 5.33 16	601 12.51 37	560 15.79 47	0.7 0.01	0.6	0.13	34	2162 1997	1149	

TABLE E-6

MINERAL ANALYSES OF GROUND WATER 1963
SAN DIEGO DRAINAGE PROVINCE (Z)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million							
				Calcium Ca	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO ₃	Bicar- bonate HCO ₃	Sulfate SO ₄	Chlor- ide Cl	Ni- trate NO ₃	Fluo- ride F	Boron B	Sili- ca SiO ₂	TDS Evap (80°C) Exp (100°C) Computed CaCO ₃
LOWER SAN DIEGO HYDRO SUBUNIT EL CAJON HYDRO SUBAREA				SAN DIEGO HYDRO UNIT										Z0700		
				Z07A0					Z07A3							
15S/ 1E-21R 1 S 11- 6-63	--	7.1	1310	71 3.54 26	39 3.21 23	162 7.04 51	3 0.08 1	0	2.92 21	172 3.58 26	216 6.09 45	65. 1.05 8	0.4	0.17	37	900 853
16S/ 1W- 1G 1 S 11- 6-63	--	7.3	1850	174 8.68 39	63 5.18 24	187 8.13 37	2 0.05	0	282 4.62 21	416 8.66 40	231 6.51 30	125. 2.02 9	0.2	0.12	43	1478 694
16S/ 1W- 2K 6 S 11- 6-63	--	7.4	1950	112 5.59 27	62 5.10 25	225 9.78 48	1 0.03	0	250 4.10 20	158 3.29 16	399 11.25 55	106. 1.71 8	0.2	0.18	43	1396 535
16S/ 1W-11P 4 S 11- 6-63	--	7.3	3000	212 10.58 32	75 6.17 19	365 15.87 49	2 0.05	0	261 4.28 13	151 3.14 10	819 23.10 71	111. 1.79 6	0.4	0.20	42	2242 838
16S/ 1W-12J 3 S 11- 6-63	--	7.4	3050	253 12.62 37	153 12.58 37	207 9.00 26	5 0.13	0	195 3.20 9	192 4.00 12	840 23.69 70	190. 3.06 9	0.2	0.23	40	2268 1261 1976

TABLE E-6
MINERAL ANALYSES OF GROUND WATER 1963
SAN DIEGO DRAINAGE PROVINCE (Z)

State well number		Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million							
Date sampled	Ca				Mg	Na	Potassium	Carbonate CO ₃	Bicarbonate HCO ₃	Sulfate SO ₄	Chloride Cl	Nitrate NO ₃	Fluoride F	Barium B	Silica SiO ₂	TDS Expressed as CaCO ₃	
TIA JUANA HYDRO SUBAREA Z1140					TIA JUANA HYDRO UNIT Z1100												
TIA JUANA HYDRO SUBAREA Z1141					TIA JUANA HYDRO UNIT Z1100												
18S/ 2W-32H 1 S 10- 7-63	70	7.2	11200	675 33.68 25	247 20.31 15	1900 82.61 60	10 0.26	0	541 8.87 7	817 17.01 13	3869 109.11 81	0.	0.2	1.17	20	9584 7805	2702
18S/ 2W-32P 4 S 4- 9-63	70	7.4	24500	772 38.52 11	943 77.55 22	5200 226.10 66	100 2.56 1	0	309 5.06 1	1475 30.71 9	10740 302.87 89	0.	0.2	0.64	19	25360 19402	5808
18S/ 2W-33K 4 S 11- 4-63	66	7.3	3750	319 15.92 35	107 8.80 19	485 21.09 46	4 0.10	0	416 6.82 15	618 12.87 29	901 25.41 56	0.	0.4	0.56	20	3002 2659	1237
18S/ 2W-35L 1 S 10-31-63	--	7.6	4500	303 15.12 29	105 8.64 17	630 27.39 53	9 0.23	0	546 8.95 18	315 6.56 13	1259 35.50 70	0.	0.1	0.69	21	3122 2911	1189
19S/ 2W- 5C 6 S 10- 4-63	69	7.8	23300	638 31.84 12	675 55.51 20	4280 186.09 68	41 1.05	0	264 4.33 2	1146 23.86 9	8780 247.60 90	12. 0.19	0.9	1.20	--	16590 15704	4371
19S/ 2W- 5G18 S 10- 7-63	70	6.9	7850	455 22.70 26	186 15.30 17	1140 49.57 57	6 0.15	0	250 4.10 5	531 11.06 13	2528 71.29 82	0.	0.1	0.37	17	6060 4986	1902

TABLE E-7

RADIOASSAY OF GROUND WATER

LOS ANGELES DRAINAGE PROVINCE (U)

STATE <u>WELL NUMBER</u>	DATE <u>SAMPLED</u>	TOTAL ACTIVITY <u>uuc/l^a</u>
<u>Oxnard Hydrologic Subarea U-03.A1</u>		
1N/21W-31A1	6-18-63	0.3 $\pm$ 1.1
1N/22W-15B3	6-14-63	3.4 $\pm$ 1.1
1N/22W-18E1	6-10-63	0.5 $\pm$ 1.1
1N/22W-22C1	6-18-63	0.5 $\pm$ 1.1

Central Hydrologic Subarea U-05.A5

2S/13W-28H1	6-26-63	2.8 $\pm$ 1.2
	6-26-63	0.3 $\pm$ 0.36

^a MICROMICROCURIES PER LITER - PROBABLE ERROR COMPUTED AT ONE STANDARD DEVIATION IN MICROMICROCURIES PER LITER WITHOUT SELF ABSORPTION CORRECTION.

TABLE E-8

RADIOASSAY OF GROUND WATER

LAHONTAN DRAINAGE PROVINCE (W)

STATE WELL NUMBER	DATE SAMPLED	TOTAL ACTIVITY uuc/l ^a
<u>Lower Mojave Hydrologic Subunit W - 28.E0</u>		
9N/1E-10D2	7-17-63	0.4 ± 0.36
9N/1W-13H2	7-16-63	0.2 ± 0.36
10N/1W-33E1	7-18-63	0.3 ± 0.36
9N/1E-1M1	7-12-63	0.61 ± 1.1
9N/1E-15N2	7-16-63	0.1 ± 0.36
9N/2E- 8N2	7-16-63	0.72 ± 1.1
10N/2E-31R1	7-17-63	0.3 ± 0.36

^a MICROMICROCURIES PER LITER - PROBABLE ERROR COMPUTED AT ONE STANDARD DEVIATION IN MICROMICROCURIES PER LITER WITHOUT SELF ABSORPTION CORRECTION

TABLE E-9

RADIOASSAY OF GROUND WATER
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

STATE <u>WELL NUMBER</u>	DATE <u>SAMPLED</u>	TOTAL ACTIVITY <u>$\mu\text{uc}/\text{l}^a$</u>
<u>Indio Hydrologic Subarea X -19.D7</u>		
5S/7E-16K1	5- 1-63	0.2 $\pm$ 1.1
5S/7E-22K1	4-30-63	13.8 $\pm$ 3.7
5S/7E-33C1	5- 1-63	0.2 $\pm$ 1.1
5S/8E-31D1	4-30-63	0.2 $\pm$ 1.1
5S/8E-33N1	4-30-63	0.1 $\pm$ 1.1
6S/8E- 7P1	4-30-63	0.3 $\pm$ 1.1
6S/8E-10A4	4-30-63	0.1 $\pm$ 0.36
6S/8E-27H1	4-30-63	0.3 $\pm$ 1.1
6S/9E-30C1	4-30-63	0.1 $\pm$ 0.36
7S/8E-22M1	4-30-63	7.4 $\pm$ 2.3
7S/9E-16K1	4-30-63	4.3 $\pm$ 1.5

^a MICROMICROCURIES PER LITER - PROBABLE ERROR COMPUTED AT ONE STANDARD DEVIATION IN MICROMICROCURIES PER LITER WITHOUT SELF ABSORPTION CORRECTION.

TABLE E-10

RADIOASSAY OF GROUND WATER

SANTA ANA DRAINAGE PROVINCE (Y)

STATE <u>WELL NUMBER</u>	DATE <u>SAMPLED</u>	TOTAL ACTIVITY <u>uuc/l^a</u>
<u>Chino Hydrologic Subarea Y-01.B1</u>		
1S/6W-29R1	6-13-63	0.1 $\pm$ 1.1
	7- 2-63	0.4 $\pm$ 0.36
2S/7W-10M1	3-13-63	10.4 $\pm$ 2.9
2S/7W-21L1	3-13-63	16.4 $\pm$ 4.0
2S/7W-22K1	6-11-63	0.2 $\pm$ 0.36
2S/7W-23E1	3-13-63	7.2 $\pm$ 2.2
	6-12-63	0.1 $\pm$ 0.36
2S/7W-27A1	3-13-63	18.3 $\pm$ 4.3
	5-28-63	26.35 $\pm$ 0.8

Bunker Hill Hydrologic Subarea Y-01.E2

1S/3W-16A1	6- 4-63	0.2 $\pm$ 1.1
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^a MICROMICROCURIES PER LITER - PROBABLE ERROR COMPUTED AT ONE STANDARD DEVIATION IN MICROMICROCURIES PER LITER WITHOUT SELF ABSORPTION CORRECTION



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LEGEND

WATER SAMPLING STATION

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
SAN FRANCISCO DISTRICT

DATA, 1963

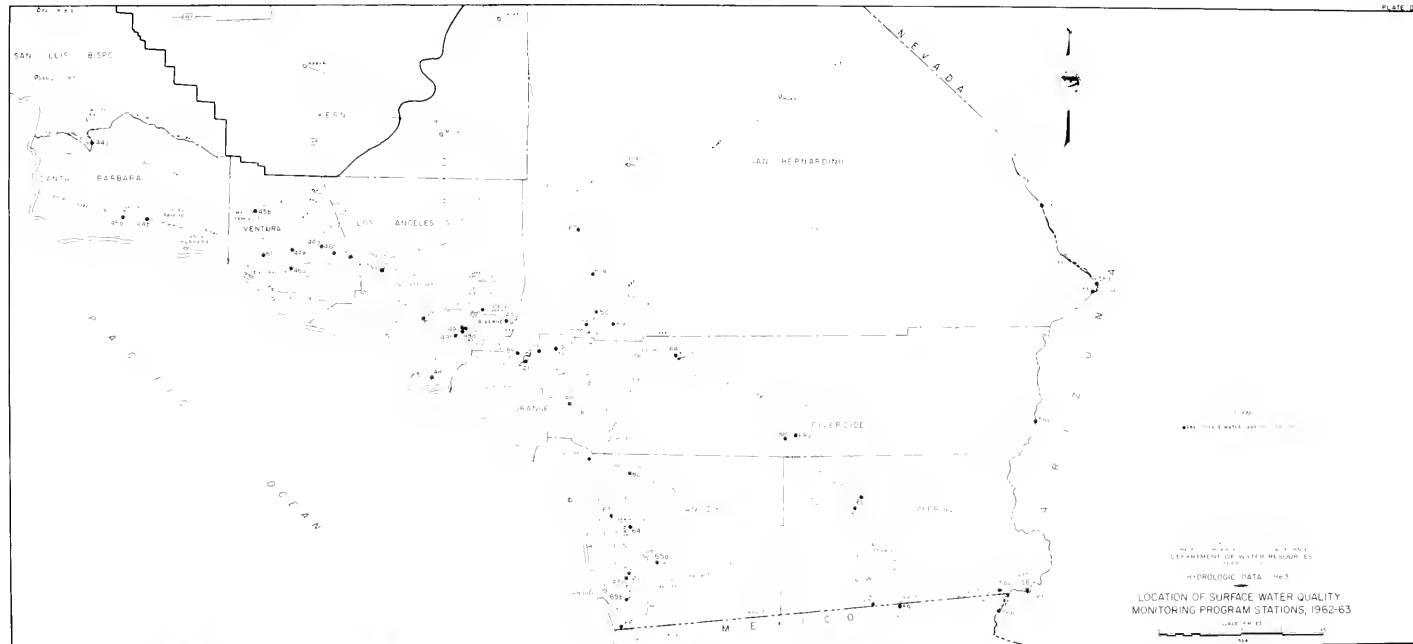
FACE WATER QUALITY
AM STATIONS, 1962-63

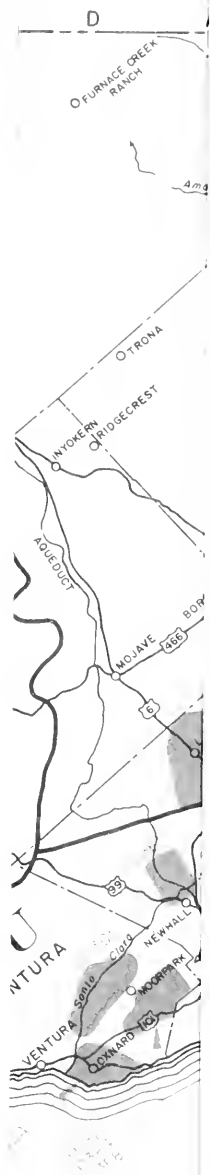
SCALE OF MILES
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1964

STREAM SAMPLING STATIONS 1962-1963

Sta. No.	Station Name	Sta. No.	Station Name
44a	Cuyama River near Garey	56a	All American Canal near Pilot Knob
44b	Santa Ynez River at Cachuma Reservoir	56b	Colorado River below Morelos Dam
45a	Santa Ynez River near Solvang	56c	Colorado River near Blythe
45b	Matilija Creek above Dam	56d	Colorado River at Colorado River Intake
46	Santa Clara River at Los Angeles-Ventura County Line	57	New River at International Boundary
46a	Santa Clara River near Santa Paula	58	New River near Westmorland
46c	Piru Creek near Piru	59	Alamo River at International Boundary
46d	Sespe Creek near Fillmore	60	Alamo River near Calipatria
46e	Santa Paula Creek near Santa Paula	61	Ventura River near Ventura
47	Los Angeles River at Figueroa Street	62	San Luis Rey River near Pala
48	Los Angeles River at Pacific Coast Highway	63	Escondido Creek near Harmony Grove
49	Rio Hondo at Whittier Narrows	64	San Dieguito River below San Pasqual
49a	Mission Creek at Whittier Narrows	65	San Diego River at Old Mission Dam
49b	Rio Hondo above Spreading Grounds	65a	Forester Creek at Mission Gorge Road
50	San Gabriel River at Whittier Narrows	65b	Spring Valley Creek near La Pressa
50b	Warm Creek at Colton	65c	San Diego River near Mission Gorge Road
50c	Warm Creek at San Bernardino	66	Tia Juana River at International Boundary
50d	San Gabriel River at Azusa Powerhouse	67	Mojave River near Victorville
51	Santa Ana River near Arlington	67a	Mojave River at the Forks
51a	Santa Ana River below Prado Dam	68	Whitewater River near Whitewater
51b	Santa Ana River near Mentone	68a	Salton Sea at Salton Sea State Park
51c	Santa Margarita River near Fallbrook	68b	Whitewater River near Mecca
51e	Santa Ana River near Norco	69	Colorado River Aqueduct at La Verne
54	Colorado River near Topock, Arizona	70	Los Angeles Aqueduct near San Fernando
55	Colorado River below Parker Dam	86	Chino Creek near Chino
56	Colorado River at Yuma, Arizona	89	Lake Elsinore at North Shore





INDEX TO MONITORED AREAS*

Name

Number

CENTRAL COASTAL DRAINAGE PROVINCE (T)

Paso Robles Hydrologic Subunit
Santa Maria Hydrologic Subunit
Cuyama Valley Hydrologic Subunit

TO9B0
TI2A0
TI2C0

LOS ANGELES DRAINAGE PROVINCE (U)

Oxnard Hydrologic Subarea
Santa Paula Hydrologic Subarea
Eastern Hydrologic Subarea
East Las Pasoa Hydrologic Subarea
Conejo Valley Hydrologic Subarea
Thousand Oaks Hydrologic Subarea
West Coast Hydrologic Subarea
Central Hydrologic Subarea
Main San Gabriel Hydrologic Subarea

U03A1
U03B1
U03E1
U03F2
U03F4
U03F6
U05A2
U05A5
U05D1

LAHONTIAN DRAINAGE PROVINCE (W)

Lancaster Hydrologic Subarea
Middle Mojave Hydrologic Subunit
Lower Mojave Hydrologic Subunit

W26A5
W28C0
W28B0

COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

Twentynine Palms Hydrologic Subunit
Indio Hydrologic Subarea

X09A0
X19D7

SANTA ANA DRAINAGE PROVINCE (Y)

East Coastal Plain Hydrologic Subarea
Santa Ana Narrows Hydrologic Subarea
Chino Hydrologic Subarea
Bunker Hill Hydrologic Subarea

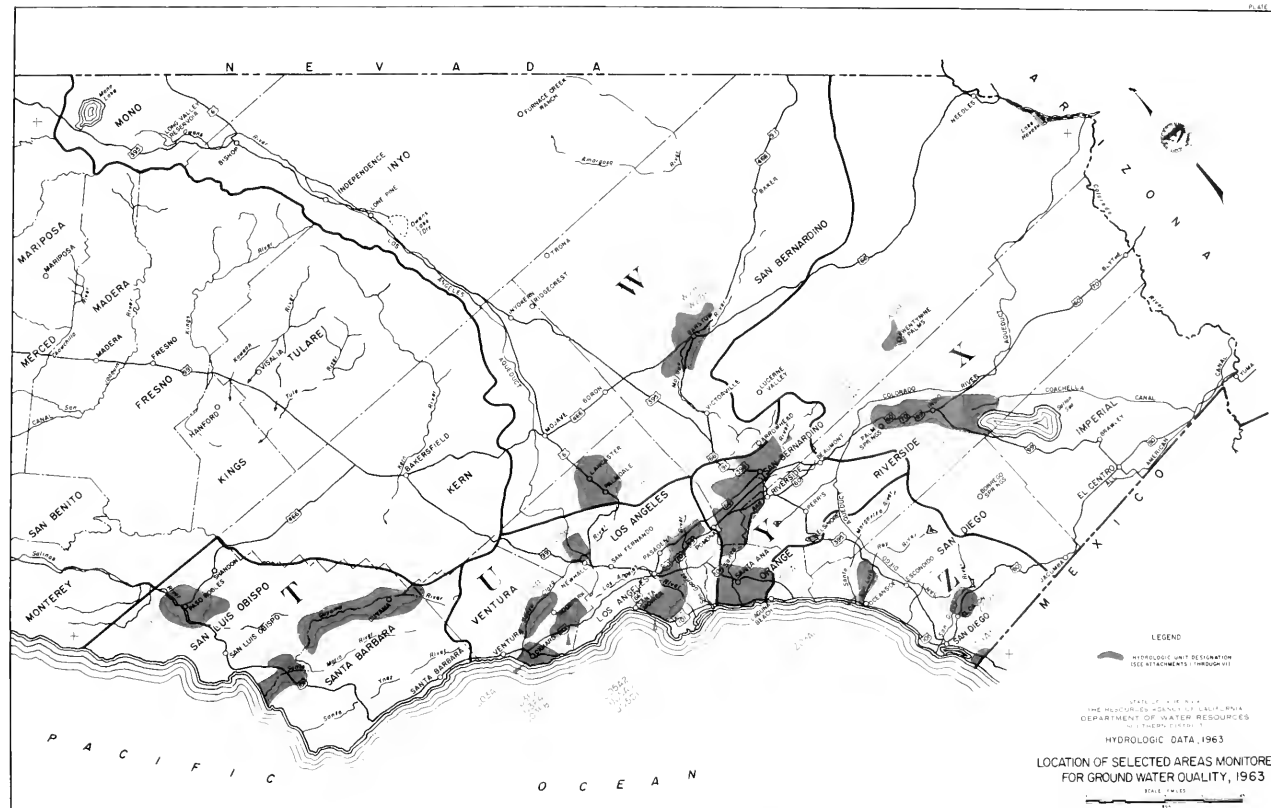
Y01A1
Y01A3
Y01B1
Y01E2

SAN DIEGO DRAINAGE PROVINCE (Z)

Mission Hydrologic Subarea
El Cajon Hydrologic Subarea
Tia Juana Hydrologic Subarea

Z03A1
Z07A3
Z11A1

*Monitored areas may include only a portion of the hydrologic units, subunits, or subareas listed.



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